



**Release list**

# **Mechanics**

**for the business unit battery cell and -systems  
at Components Manufacturing  
of the Volkswagen Group  
„Technical-Section-Specific part“**

**Version date: 2023-04-01**

**Edition: 1.2**

## Revision history

| Version | Date       | Type of change                                                                                   |
|---------|------------|--------------------------------------------------------------------------------------------------|
| 1.0     | 2022-03-08 | Start                                                                                            |
| 1.1     | 2022-04-13 | Specification Mechanic „battery“ reworked (Version 1.1)<br>Oiler (MS-LOE) removed                |
| 1.2     | 2023-04-01 | Specification Mechanic „battery“ reworked (Version 1.2)<br>VSNC, Plug socket, Flow control plate |
|         |            |                                                                                                  |

### Note:

This document complements the equipment release list Mechanics for the components manufacturing of the Volkswagen Group “Technology-Specific Part” for the business unit battery cell and -systems.

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Content changes are shown in grey.

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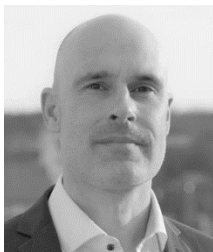
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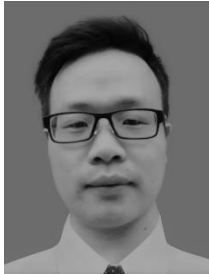


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## 2. Notes

### 2.1 Purpose of use

The basis for the following release list is the **mechanical systems specification for the component manufacturing of the Volkswagen Group** in the current edition. The respective requirements and restrictions must be complied with.

This document has been prepared exclusively for the business unit battery cell and -systems and is intended and only valid for machines in battery cell manufacturing

### 2.2 General Notes

The products of Festo SE & Co. KG listed in this release list are intended to cover the requirements in the production areas business unit battery cell and -systems and is intended and only valid for machines in battery cell manufacturing of the Volkswagen Group and must be as far as possible in the sense of rational procurement, planning, maintenance and warehousing be used.

If, for project-specific reasons, deviations are required for a better solution of the production tasks, the special components must be coordinated with the customer in good time.

The released products are limited to the respective part numbers of Festo SE & Co. KG.

The release list does not release the requirement to read the Specification Sheet **“mechanical systems specification for the component manufacturing” of the Volkswagen Group**.

The general terms and conditions of Festo SE & Co. KG apply to you.

### 2.3 Specific requirements in Battery cell production (part I): Dry room characteristic of components

A dry-room environment with a pressure dew point of  $-50\text{ °C}$  to in some cases  $-80\text{ °C}$  is typical for lithium-ion battery machines. The dry-room environment reduces the hydrophilic tendency of many electrolytes and prevents the risk of harmful hydrofluoric acid forming through reaction with the ambient air humidity.

Stock products from Festo have proven their worth in dry-room applications such as battery manufacturing. **Festo products can be used in environments with a dew point of  $-80\text{ °C}$  or even lower** since none of the approximately 60 different greases used by Festo contains water as an integral part of the formulation of the lubricant.

These greases will therefore not desiccate in contact with even very dry air. Moreover, none of Festo's greases needs humidity or even liquid water for their lubrication properties.

## 2.4 Specific Requirements in Battery cell production (part II): Restrictions regarding copper, zinc, and nickel

Depending on the material used for the electrolytes and electrodes in the production of lithium-ion secondary batteries, copper, zinc, and nickel can be considered as interfering particles. Festo has therefore defined criteria for its products recommended for secondary battery production to restrict their copper, zinc, and nickel content. This means that metals that are mainly made up of either copper, zinc, or nickel, are excluded from use. However, some alloys require supplements of these elements as a part of the metal matrix.

Exceptions from material restrictions regarding copper, zinc, and nickel:

- **Nickel in ferrous metals**
- **Electroless nickel plating without copper base layer**
- **Inert chemical compounds, such as oxides and sulfides**
- **PCBs, electric connectors, cables, wires, and coils**

Festo recommends usage of products with restrictions regarding copper, zinc, and nickel in secondary battery production, especially in the following manufacturing processes:

- **Material distribution**
- **Coating**
- **Drying**
- **Calendering**
- **Slitting**
- **Vacuum-drying**
- **Separation**
- **Stacking/winding**
- **Packaging**
- **Filling**

Products fulfilling these requirements are either indicated with a suffix "F1A" in the order code or classified within technical data of product documentation. Additionally, products with restrictions regarding non-ferrous metals are highlighted in this specification sheet with a blue • .

Irrespective of this, products without corresponding restrictions have proven worth in battery cell production. In this case, the machine builder must take precautions to prevent or reduce the risk of contamination of the battery cells with interfering particles. From Festo's point of view, such precautions can be e.g. the encapsulation of possible emission sources, evacuation, installation of the components below the critical process and protection through laminar air flow.

These products are highlighted in this specification sheet with a blue (•).

## 2.5 The right automation product for your battery production

Components from Festo can be used in all the process steps in battery production. The solution that is right for you depends entirely on your exact requirements. We have put together an overview to give you a rough idea of which components our experts consider to be particularly well suited for each individual production step.

| Material distribution                                                             | Coating                                                                           | Drying                                                                            | Calendering                                                                       | Slitting                                                                          | Vacuum-drying                                                                     | Separation                                                                        | Stacking/winding                                                                   | Packaging                                                                           | Filling                                                                             | Formation                                                                           | Degassing                                                                           | High temp aging<br>Low temp aging                                                   | EOL testing                                                                         |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |

### Pneumatic drives

|                                                                                     |        |  |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------------------------------------------------------------------------------------|--------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|    | DSBC   |  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |
|    | DSBG   |  | (•) |     |     | (•) |     | (•) |     |     |     | (•) | (•) | (•) | (•) |
|    | DSNU-S |  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |
|    | ADN-S  |  |     | •   | •   | •   |     | •   | •   | •   | •   | •   | •   | •   | •   |
|    | ADN    |  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |
|    | ADNGF  |  |     | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|   | DLGF   |  |     |     | (•) | (•) |     | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | DGC-K  |  |     | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | DGC    |  |     | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | DRVS   |  |     |     | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |
|  | DSM    |  |     |     | (•) | (•) |     | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | DRRD   |  |     |     | (•) | (•) |     | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | DGST   |  |     | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |
|  | DFM    |  |     | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |
|  | DACS   |  | (•) | (•) |     |     |     | (•) | (•) | (•) | (•) | (•) |     |     |     |
|  | KPE    |  |     |     | (•) | (•) |     | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |

### Electric drives

|                                                                                     |            |  |  |   |     |     |   |     |     |     |     |     |     |     |     |
|-------------------------------------------------------------------------------------|------------|--|--|---|-----|-----|---|-----|-----|-----|-----|-----|-----|-----|-----|
|  | ELGC-TB    |  |  |   | •   | •   |   |     | •   | •   |     | •   |     | •   | •   |
|  | ELGC-BS    |  |  |   | •   | •   |   |     | •   | •   |     | •   |     | •   | •   |
|  | EGC-BS     |  |  |   | (•) | (•) |   | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | ELGA-TB-KF |  |  |   | (•) | (•) |   |     | (•) | (•) |     | (•) |     | (•) | (•) |
|  | ESBF       |  |  | • |     |     | • | •   | •   | •   | •   | •   |     | •   | •   |
|  | EGSC       |  |  |   | •   | •   |   |     | •   | •   |     | •   |     | •   | •   |

### Motors and controllers

|                                                                                     |         |  |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------------------------------------------------------------------------------------|---------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|  | EMMS-ST |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | EMGA    |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | CMMT-ST |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |

### Vacuum technology

|                                                                                     |             |  |  |  |     |  |     |     |     |     |     |     |     |     |     |
|-------------------------------------------------------------------------------------|-------------|--|--|--|-----|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|  | OVEL        |  |  |  | •   |  | •   | •   | •   | •   | •   | •   | •   | •   | •   |
|  | OVEM        |  |  |  | (•) |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | VN (pneum.) |  |  |  | •   |  | •   | •   | •   | •   | •   | •   | •   | •   | •   |

### Valves

|                                                                                   |               |  |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------------------------------------------------------------------------------|---------------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|  | VUVG (Single) |  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |
|  | VUVG (plugin) |  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |
|  | VUWG          |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | VSNC          |  | (•) | (•) | (•) |     |     | (•) |     |     | (•) |     | (•) |     |     |
|  | VOFA          |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | HGL           |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | HAB           |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | VBNF          |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | H             |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | SE / SEU      |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | GrxA / GRxZ   |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | GR / GRA      |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | GRE           |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | VEAB          |  |     | (•) | (•) | (•) |     | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | VPPE          |  |     | •   | •   | •   |     | •   | •   | •   | •   | •   | •   | •   | •   |
|  | OS (OR)       |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | ZK (AND)      |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |

### Valve terminals

|                                                                                     |          |  |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------------------------------------------------------------------------------------|----------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|    | VTUG     |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|   | VTUG-F1A |  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |
|  | CTEU     |  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |

### Sensors

|                                                                                     |          |  |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------------------------------------------------------------------------------------|----------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|  | SMT-8M-A |  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |
|  | SDPT     |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | SMBR     |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | SAMH     |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | SMM      |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | SPAU     |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |

### Safety oriented pneumatics

|                                                                                     |        |  |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------------------------------------------------------------------------------------|--------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|  | VOFA   |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | VL     |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | MS6-SV |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |

### Compressed air preparation

|                                                                                     |             |  |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------------------------------------------------------------------------------------|-------------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|  | MSx-EE      |  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |
|  | MSx-DL      |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | MSx-SV      |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | MSx-FRM     |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | MSx-FRM-FRZ |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | MS4-LFR     |  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |
|  | MS6-LFR     |  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |
|  | MS9-LFR     |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | MS12-LFR    |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | MS6-LFM     |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | MS6-LFX     |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | MS4-LR      |  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |
|  | MS6-LR      |  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |
|  | MS9-LR      |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | MS12-LR     |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | MS6-LRP     |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |

|                                                                                   |     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------------------------------------------------------------------------------|-----|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|  | LRP |  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |
|  | MA  |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | PEV |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | DPA |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |

#### Pneumatic connection technology

|                                                                                   |          |  |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------------------------------------------------------------------------------|----------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|  | PUN-H    |  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |
|  | PUN-V0   |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | NPQE-F1A |  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |
|  | NPQR     |  | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   | •   |

#### Control technology

|                                                                                   |     |  |  |     |     |     |     |     |     |     |     |  |  |  |  |
|-----------------------------------------------------------------------------------|-----|--|--|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
|  | VLG |  |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |  |  |  |  |
|-----------------------------------------------------------------------------------|-----|--|--|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|

#### Other pneumatic equipment

|                                                                                   |    |  |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------------------------------------------------------------------------------|----|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|  | U  |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |
|  | U0 |  | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) | (•) |

## 3. Overview

### 3.1 Pneumatic drives

#### 3.1.1. DSBC Standard cylinder to ISO 15552

| Name                   | Order code | Remarks                                                                                                                                       | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standard cylinder DSBC | DSBC-...   | Diameter: 32, 50, 63, 80, 100, 125 mm<br>Stroke length 25 ... 500 mm<br>Force: 483 ... 7363 N<br>Double-acting<br>Position sensing adjustable |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code          | Name                     | Links                                                                                                                                                                                                                                                             |
|----------|---------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1376422  | DSBC-32-25-PPVA-N3  | standards-based cylinder |          |
| 1376424  | DSBC-32-50-PPVA-N3  | standards-based cylinder |          |
| 1376425  | DSBC-32-80-PPVA-N3  | standards-based cylinder |          |
| 1376426  | DSBC-32-100-PPVA-N3 | standards-based cylinder |          |
| 1376427  | DSBC-32-125-PPVA-N3 | standards-based cylinder |          |
| 1376428  | DSBC-32-160-PPVA-N3 | standards-based cylinder |       |
| 1376429  | DSBC-32-200-PPVA-N3 | standards-based cylinder |    |
| 1376430  | DSBC-32-250-PPVA-N3 | standards-based cylinder |    |
| 1376431  | DSBC-32-320-PPVA-N3 | standards-based cylinder |    |
| 1376432  | DSBC-32-400-PPVA-N3 | standards-based cylinder |    |
| 1376433  | DSBC-32-500-PPVA-N3 | standards-based cylinder |    |
| 1366948  | DSBC-50-25-PPVA-N3  | standards-based cylinder |    |
| 1366950  | DSBC-50-50-PPVA-N3  | standards-based cylinder |    |
| 1366951  | DSBC-50-80-PPVA-N3  | standards-based cylinder |    |
| 1366952  | DSBC-50-100-PPVA-N3 | standards-based cylinder |    |
| 1366953  | DSBC-50-125-PPVA-N3 | standards-based cylinder |    |
| 1366954  | DSBC-50-160-PPVA-N3 | standards-based cylinder |    |
| 1366955  | DSBC-50-200-PPVA-N3 | standards-based cylinder |    |
| 1366956  | DSBC-50-250-PPVA-N3 | standards-based cylinder |    |
| 1366957  | DSBC-50-320-PPVA-N3 | standards-based cylinder |    |
| 1366958  | DSBC-50-400-PPVA-N3 | standards-based cylinder |    |
| 1366959  | DSBC-50-500-PPVA-N3 | standards-based cylinder |    |
| 1383578  | DSBC-63-25-PPVA-N3  | standards-based cylinder |    |
| 1383580  | DSBC-63-50-PPVA-N3  | standards-based cylinder |    |
| 1383581  | DSBC-63-80-PPVA-N3  | standards-based cylinder |    |
| 1383582  | DSBC-63-100-PPVA-N3 | standards-based cylinder |    |
| 1383583  | DSBC-63-125-PPVA-N3 | standards-based cylinder |    |
| 1383584  | DSBC-63-160-PPVA-N3 | standards-based cylinder |    |
| 1383585  | DSBC-63-200-PPVA-N3 | standards-based cylinder |    |
| 1383586  | DSBC-63-250-PPVA-N3 | standards-based cylinder |    |
| 1383587  | DSBC-63-320-PPVA-N3 | standards-based cylinder |    |
| 1383588  | DSBC-63-400-PPVA-N3 | standards-based cylinder |    |
| 1383589  | DSBC-63-500-PPVA-N3 | standards-based cylinder |    |
| 1383333  | DSBC-80-25-PPVA-N3  | standards-based cylinder |    |
| 1383335  | DSBC-80-50-PPVA-N3  | standards-based cylinder |    |
| 1383336  | DSBC-80-80-PPVA-N3  | standards-based cylinder |    |
| 1383337  | DSBC-80-100-PPVA-N3 | standards-based cylinder |    |
| 1383338  | DSBC-80-125-PPVA-N3 | standards-based cylinder |    |

| Part no. | Order code           | Name                     | Links                                                       |
|----------|----------------------|--------------------------|-------------------------------------------------------------|
| 1383339  | DSBC-80-160-PPVA-N3  | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1383340  | DSBC-80-200-PPVA-N3  | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1383341  | DSBC-80-250-PPVA-N3  | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1383342  | DSBC-80-320-PPVA-N3  | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1383343  | DSBC-80-400-PPVA-N3  | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1383344  | DSBC-80-500-PPVA-N3  | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1384804  | DSBC-100-25-PPVA-N3  | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1384806  | DSBC-100-50-PPVA-N3  | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1384807  | DSBC-100-80-PPVA-N3  | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1384808  | DSBC-100-100-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1384809  | DSBC-100-125-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1384810  | DSBC-100-160-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1384811  | DSBC-100-200-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1384812  | DSBC-100-250-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1384813  | DSBC-100-320-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1384814  | DSBC-100-400-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1384815  | DSBC-100-500-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1804956  | DSBC-125-25-PPVA-N3  | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1804958  | DSBC-125-50-PPVA-N3  | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1804959  | DSBC-125-80-PPVA-N3  | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1804960  | DSBC-125-100-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1804961  | DSBC-125-125-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1804962  | DSBC-125-160-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1804963  | DSBC-125-200-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1804964  | DSBC-125-250-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1804965  | DSBC-125-320-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1804966  | DSBC-125-400-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1804967  | DSBC-125-500-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |

### 3.1.2. DSBG Standard cylinder to ISO 15552

| Name                   | Order code | Remarks                                                                                                                       | Picture                                                                              | Links                                                                                                                                                                                                                                                                  |
|------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standard cylinder DSBG | DSBG-...   | Diameter 160, 200 mm<br>Stroke length 25 ... 500 mm<br>Force: 483 ... 48255 N<br>Double-acting<br>Position sensing adjustable |  | <a href="#"> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">文档</a></a><br><a href="#"> <a href="#">카탈로그</a></a><br><a href="#"> <a href="#">카탈로그 및 상세 정보</a></a> |

| Part no. | Order code           | Name                     | Links                                                       |
|----------|----------------------|--------------------------|-------------------------------------------------------------|
| 2029462  | DSBG-160-25-PPVA-N3  | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 2029464  | DSBG-160-50-PPVA-N3  | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 2029465  | DSBG-160-80-PPVA-N3  | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 2029466  | DSBG-160-100-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 2029467  | DSBG-160-125-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 2029468  | DSBG-160-160-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 2029469  | DSBG-160-200-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 2029470  | DSBG-160-250-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 2029471  | DSBG-160-320-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 2029472  | DSBG-160-400-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 2029473  | DSBG-160-500-PPVA-N3 | standards-based cylinder | <a href="#">OKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |

| Part no. | Order code           | Name                     | Links                                                       |
|----------|----------------------|--------------------------|-------------------------------------------------------------|
| 2390139  | DSBG-200-25-PPVA-N3  | standards-based cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 2390141  | DSBG-200-50-PPVA-N3  | standards-based cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 2390142  | DSBG-200-80-PPVA-N3  | standards-based cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 2390143  | DSBG-200-100-PPVA-N3 | standards-based cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 2390144  | DSBG-200-125-PPVA-N3 | standards-based cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 2390145  | DSBG-200-160-PPVA-N3 | standards-based cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 2390146  | DSBG-200-200-PPVA-N3 | standards-based cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 2390147  | DSBG-200-250-PPVA-N3 | standards-based cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 2390148  | DSBG-200-320-PPVA-N3 | standards-based cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 2390149  | DSBG-200-400-PPVA-N3 | standards-based cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 2390150  | DSBG-200-500-PPVA-N3 | standards-based cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |

### 3.1.3. DSNU-S Round cylinders

| Name                   | Order code | Remarks                                                                                                                                                                   | Picture                                                                            | Links                                                                                                                                                                                                                                                                              |
|------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Round cylinders DSNU-S | DSNU-...   | Diameter 12, 16, 20, 25 mm<br>Stroke length 25, 50, 80, 100 mm<br>Force: 19 ... 1870 N<br>Double-acting<br>Position sensing<br>Fixed<br>Mounting flange and short end cap |  | <a href="#">UK</a> <a href="#">Catalogue</a><br><a href="#">UK</a> <a href="#">Documentation</a><br><a href="#">CN</a> <a href="#">电子目录</a><br><a href="#">CN</a> <a href="#">文档</a><br><a href="#">KR</a> <a href="#">카타로그</a><br><a href="#">KR</a> <a href="#">카탈로그 및 상세 정보</a> |

| Part no. | Order code            | Name           | Links                                                       |
|----------|-----------------------|----------------|-------------------------------------------------------------|
| 8148786  | DSNU-S-12-25-P-A-F1A  | round cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8148786  | DSNU-S-12-50-P-A-F1A  | round cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8148786  | DSNU-S-12-80-P-A-F1A  | round cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8148786  | DSNU-S-12-100-P-A-F1A | round cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8148787  | DSNU-S-16-25-P-A-F1A  | round cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8148787  | DSNU-S-16-50-P-A-F1A  | round cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8148787  | DSNU-S-16-80-P-A-F1A  | round cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8148787  | DSNU-S-16-100-P-A-F1A | round cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8148788  | DSNU-S-20-25-P-A-F1A  | round cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8148788  | DSNU-S-20-50-P-A-F1A  | round cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8148788  | DSNU-S-20-80-P-A-F1A  | round cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8148788  | DSNU-S-20-100-P-A-F1A | round cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8148789  | DSNU-S-25-25-P-A-F1A  | round cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8148789  | DSNU-S-25-50-P-A-F1A  | round cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8148789  | DSNU-S-25-80-P-A-F1A  | round cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8148789  | DSNU-S-25-100-P-A-F1A | round cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |

### 3.1.4. ADN-S Compact, short stroke and flat cylinder

| Name                   | Order code | Remarks                                                                                                                               | Picture                                                                              | Links                                                                                                                                                                                                                                                                              |
|------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Compact cylinder ADN-S | ADN-...    | Diameter 12, 16, 20 mm<br>Stroke length 5, 10, 20, 30, 40, 50 mm<br>Force 9.4 ... 1870 N<br>Double-acting<br>Cushioning without/fixed |  | <a href="#">UK</a> <a href="#">Catalogue</a><br><a href="#">UK</a> <a href="#">Documentation</a><br><a href="#">CN</a> <a href="#">电子目录</a><br><a href="#">CN</a> <a href="#">文档</a><br><a href="#">KR</a> <a href="#">카타로그</a><br><a href="#">KR</a> <a href="#">카탈로그 및 상세 정보</a> |

| Part no. | Order code            | Name             | Links                                                       |
|----------|-----------------------|------------------|-------------------------------------------------------------|
| 8142562  | ADN-S-12-5-I-P-A-F1A  | compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8142563  | ADN-S-12-10-I-P-A-F1A | compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8142565  | ADN-S-12-20-I-P-A-F1A | compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8142567  | ADN-S-12-30-I-P-A-F1A | compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8142728  | ADN-S-16-5-I-P-A-F1A  | compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8142729  | ADN-S-16-10-I-P-A-F1A | compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8142731  | ADN-S-16-20-I-P-A-F1A | compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8142733  | ADN-S-16-30-I-P-A-F1A | compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8142756  | ADN-S-20-5-I-P-A-F1A  | compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8142757  | ADN-S-20-10-I-P-A-F1A | compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8142759  | ADN-S-20-20-I-P-A-F1A | compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8142761  | ADN-S-20-30-I-P-A-F1A | compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8142763  | ADN-S-20-40-I-P-A-F1A | compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8142765  | ADN-S-20-50-I-P-A-F1A | compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |

### 3.1.5. ADN Compact cylinders to ISO 21287

| Name                           | Order code    | Remarks                                                                                                                                              | Picture                                                                             | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Compact cylinder ADN ISO 21287 | ADN-...-I-P-A | Diameter 20, 32, 40, 50, 63, 80 mm<br>Stroke length 10, 20, 30, 40, 50 mm<br>Force 51 ... 7 363 N<br>Double acting<br>Damping fixed<br>Inside thread |  | <a href="#"> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">文档</a></a><br><a href="#"> <a href="#">카탈로그</a></a><br><a href="#"> <a href="#">카탈로그 및 상세 정보</a></a> |

| Part no. | Order code      | Name             | Links                                                       |
|----------|-----------------|------------------|-------------------------------------------------------------|
| 536243   | ADN-20-10-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536245   | ADN-20-20-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536247   | ADN-20-30-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536248   | ADN-20-40-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536249   | ADN-20-50-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536279   | ADN-32-10-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536281   | ADN-32-20-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536283   | ADN-32-30-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536284   | ADN-32-40-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536285   | ADN-32-50-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536300   | ADN-40-10-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536302   | ADN-40-20-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536304   | ADN-40-30-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536305   | ADN-40-40-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536306   | ADN-40-50-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536321   | ADN-50-10-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536323   | ADN-50-20-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536325   | ADN-50-30-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536326   | ADN-50-40-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536327   | ADN-50-50-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536342   | ADN-63-10-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536344   | ADN-63-20-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536346   | ADN-63-30-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536347   | ADN-63-40-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 536348   | ADN-63-50-I-P-A | Compact cylinder | <a href="#">KDK</a> <a href="#">PDF</a> <a href="#">CAD</a> |

| Part no. | Order code      | Name             | Links                                                        |
|----------|-----------------|------------------|--------------------------------------------------------------|
| 536363   | ADN-80-10-I-P-A | Compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 536365   | ADN-80-20-I-P-A | Compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 536367   | ADN-80-30-I-P-A | Compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 536368   | ADN-80-40-I-P-A | Compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 536369   | ADN-80-50-I-P-A | Compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |

### 3.1.6. ADNGF Compact, short stroke and flat cylinder

| Name                           | Order code | Remarks                                                                                                                                  | Picture                                                                            | Links                                                                                                                                                                                                                                                                  |
|--------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Compact cylinder ADNGF, metric | ADNGF-...  | Diameter 20, 32, 40, 50, 63, 80 mm<br>Stroke length 10, 20, 30, 40, 50 mm<br>Force 68 ... 4712 N<br>Position sensing<br>Cushioning fixed |  | <a href="#"> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">文档</a></a><br><a href="#"> <a href="#">카타로그</a></a><br><a href="#"> <a href="#">카탈로그 및 상세 정보</a></a> |

| Part no. | Order code      | Name             | Links                                                        |
|----------|-----------------|------------------|--------------------------------------------------------------|
| 554221   | ADNGF-20-10-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554223   | ADNGF-20-20-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554225   | ADNGF-20-30-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554226   | ADNGF-20-40-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554227   | ADNGF-20-50-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554239   | ADNGF-32-10-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554241   | ADNGF-32-20-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554243   | ADNGF-32-30-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554244   | ADNGF-32-40-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554245   | ADNGF-32-50-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554249   | ADNGF-40-10-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554251   | ADNGF-40-20-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554253   | ADNGF-40-30-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554254   | ADNGF-40-40-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554255   | ADNGF-40-50-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554259   | ADNGF-50-10-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554261   | ADNGF-50-20-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554263   | ADNGF-50-30-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554264   | ADNGF-50-40-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554265   | ADNGF-50-50-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554268   | ADNGF-63-10-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554270   | ADNGF-63-20-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554272   | ADNGF-63-30-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554273   | ADNGF-63-40-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554274   | ADNGF-63-50-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554277   | ADNGF-80-10-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554279   | ADNGF-80-20-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554281   | ADNGF-80-30-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554282   | ADNGF-80-40-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |
| 554283   | ADNGF-80-50-P-A | compact cylinder | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KAD</a> |

### 3.1.7. DLGF Mechanical coupling

| Name               | Order code | Remarks                                                                                                                                            | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Linear drives DLGF | DLGF-...   | Diameter 20, 25 mm<br>Stroke length 100 ... 600 mm<br>Force 188 ... 754 N<br>Position sensing<br>Pneumatic cushioning, self-adjusting at both ends |  |  <a href="#">Catalogue</a><br> <a href="#">Documentation</a><br> <a href="#">电子目录</a><br> <a href="#">文档</a><br> <a href="#">카타로그</a><br> <a href="#">카탈로그 및 상세 정보</a> |

| Part no. | Order code          | Name         | Links                                                        |
|----------|---------------------|--------------|--------------------------------------------------------------|
| 5074918  | DLGF-G-20-100-PPSA  | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5074938  | DLGF-KF-20-100-PPSA | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5074939  | DLGF-KF-20-150-PPSA | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5074919  | DLGF-G-20-150-PPSA  | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5074920  | DLGF-G-20-200-PPSA  | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5074940  | DLGF-KF-20-200-PPSA | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5074921  | DLGF-G-20-250-PPSA  | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5074941  | DLGF-KF-20-250-PPSA | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5074942  | DLGF-KF-20-300-PPSA | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5074922  | DLGF-G-20-300-PPSA  | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5074923  | DLGF-G-20-350-PPSA  | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5074943  | DLGF-KF-20-350-PPSA | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5074924  | DLGF-G-20-400-PPSA  | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5074944  | DLGF-KF-20-400-PPSA | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5074946  | DLGF-KF-20-500-PPSA | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5074926  | DLGF-G-20-500-PPSA  | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5074948  | DLGF-KF-20-600-PPSA | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5074928  | DLGF-G-20-600-PPSA  | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5072350  | DLGF-G-25-100-PPSA  | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5072370  | DLGF-KF-25-100-PPSA | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5072371  | DLGF-KF-25-150-PPSA | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5072351  | DLGF-G-25-150-PPSA  | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5072372  | DLGF-KF-25-200-PPSA | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5072352  | DLGF-G-25-200-PPSA  | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5072353  | DLGF-G-25-250-PPSA  | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5072373  | DLGF-KF-25-250-PPSA | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5072354  | DLGF-G-25-300-PPSA  | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5072374  | DLGF-KF-25-300-PPSA | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5072355  | DLGF-G-25-350-PPSA  | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5072375  | DLGF-KF-25-350-PPSA | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5072356  | DLGF-G-25-400-PPSA  | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5072376  | DLGF-KF-25-400-PPSA | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5072358  | DLGF-G-25-500-PPSA  | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5072378  | DLGF-KF-25-500-PPSA | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5072360  | DLGF-G-25-600-PPSA  | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 5072380  | DLGF-KF-25-600-PPSA | linear drive | <a href="#">DLGF</a> <a href="#">PDF</a> <a href="#">CRD</a> |

### 3.1.8. DGC-K Mechanical coupling

| Name                | Order code | Remarks                                                                                                    | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------|------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Linear drives DGC-K | DGC-...    | Diameter: 32, 50, 63, 80 mm<br>Stroke length: 125 ... 1000 mm<br>Force: 153 ... 3016 N<br>Position sensing |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code             | Name         | Links                                                                                                                                                                                                                                                             |
|----------|------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1312502  | DGC-K-32-125-PPV-A-GK  | Linear drive |          |
| 1312502  | DGC-K-32-160-PPV-A-GK  | Linear drive |          |
| 1312502  | DGC-K-32-200-PPV-A-GK  | Linear drive |          |
| 1312502  | DGC-K-32-250-PPV-A-GK  | Linear drive |          |
| 1312502  | DGC-K-32-320-PPV-A-GK  | Linear drive |          |
| 1312502  | DGC-K-32-400-PPV-A-GK  | Linear drive |          |
| 1312502  | DGC-K-32-500-PPV-A-GK  | Linear drive |          |
| 1312502  | DGC-K-32-1000-PPV-A-GK | Linear drive |          |
| 1312504  | DGC-K-50-125-PPV-A-GK  | Linear drive |          |
| 1312504  | DGC-K-50-160-PPV-A-GK  | Linear drive |       |
| 1312504  | DGC-K-50-200-PPV-A-GK  | Linear drive |    |
| 1312504  | DGC-K-50-250-PPV-A-GK  | Linear drive |    |
| 1312504  | DGC-K-50-320-PPV-A-GK  | Linear drive |    |
| 1312504  | DGC-K-50-400-PPV-A-GK  | Linear drive |    |
| 1312504  | DGC-K-50-500-PPV-A-GK  | Linear drive |    |
| 1312504  | DGC-K-50-1000-PPV-A-GK | Linear drive |    |
| 1312505  | DGC-K-63-125-PPV-A-GK  | Linear drive |    |
| 1312505  | DGC-K-63-160-PPV-A-GK  | Linear drive |    |
| 1312505  | DGC-K-63-200-PPV-A-GK  | Linear drive |    |
| 1312505  | DGC-K-63-250-PPV-A-GK  | Linear drive |    |
| 1312505  | DGC-K-63-320-PPV-A-GK  | Linear drive |    |
| 1312505  | DGC-K-63-400-PPV-A-GK  | Linear drive |    |
| 1312505  | DGC-K-63-500-PPV-A-GK  | Linear drive |    |
| 1312505  | DGC-K-63-1000-PPV-A-GK | Linear drive |    |
| 1312506  | DGC-K-80-125-PPV-A-GK  | Linear drive |    |
| 1312506  | DGC-K-80-160-PPV-A-GK  | Linear drive |    |
| 1312506  | DGC-K-80-200-PPV-A-GK  | Linear drive |    |
| 1312506  | DGC-K-80-250-PPV-A-GK  | Linear drive |    |
| 1312506  | DGC-K-80-320-PPV-A-GK  | Linear drive |    |
| 1312506  | DGC-K-80-400-PPV-A-GK  | Linear drive |    |
| 1312506  | DGC-K-80-500-PPV-A-GK  | Linear drive |    |
| 1312506  | DGC-K-80-1000-PPV-A-GK | Linear drive |    |

### 3.1.9. DGC Mechanical coupling

| Name              | Order code | Remarks                                                                                                                             | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Linear drives DGC | DGC-...    | Diameter: 32, 50, 63 mm<br>Stroke length: 125 ... 1000 mm<br>Force: 30 ... 1870 N<br>Position sensing<br>Various cushioning options |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code           | Name         | Links                                                                                                                                                                                                                                                             |
|----------|----------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 532448   | DGC-32-125-KF-PPV-A  | Linear drive |          |
| 532448   | DGC-32-125-GF-PPV-A  | Linear drive |          |
| 532448   | DGC-32-160-KF-PPV-A  | Linear drive |          |
| 532448   | DGC-32-160-GF-PPV-A  | Linear drive |          |
| 532448   | DGC-32-200-KF-PPV-A  | Linear drive |          |
| 532448   | DGC-32-200-GF-PPV-A  | Linear drive |          |
| 532448   | DGC-32-250-KF-PPV-A  | Linear drive |          |
| 532448   | DGC-32-250-GF-PPV-A  | Linear drive |          |
| 532448   | DGC-32-320-KF-PPV-A  | Linear drive |          |
| 532448   | DGC-32-320-GF-PPV-A  | Linear drive |       |
| 532448   | DGC-32-400-KF-PPV-A  | Linear drive |    |
| 532448   | DGC-32-400-GF-PPV-A  | Linear drive |    |
| 532448   | DGC-32-500-KF-PPV-A  | Linear drive |    |
| 532448   | DGC-32-500-GF-PPV-A  | Linear drive |    |
| 532448   | DGC-32-1000-KF-PPV-A | Linear drive |    |
| 532448   | DGC-32-1000-GF-PPV-A | Linear drive |    |
| 532450   | DGC-50-125-KF-PPV-A  | Linear drive |    |
| 532450   | DGC-50-125-GF-PPV-A  | Linear drive |    |
| 532450   | DGC-50-160-KF-PPV-A  | Linear drive |    |
| 532450   | DGC-50-160-GF-PPV-A  | Linear drive |    |
| 532450   | DGC-50-200-KF-PPV-A  | Linear drive |    |
| 532450   | DGC-50-200-GF-PPV-A  | Linear drive |    |
| 532450   | DGC-50-250-KF-PPV-A  | Linear drive |    |
| 532450   | DGC-50-250-GF-PPV-A  | Linear drive |    |
| 532450   | DGC-50-320-KF-PPV-A  | Linear drive |    |
| 532450   | DGC-50-320-GF-PPV-A  | Linear drive |    |
| 532450   | DGC-50-400-KF-PPV-A  | Linear drive |    |
| 532450   | DGC-50-400-GF-PPV-A  | Linear drive |    |
| 532450   | DGC-50-500-KF-PPV-A  | Linear drive |    |
| 532450   | DGC-50-500-GF-PPV-A  | Linear drive |    |
| 532450   | DGC-50-1000-KF-PPV-A | Linear drive |    |
| 532450   | DGC-50-1000-GF-PPV-A | Linear drive |    |
| 532451   | DGC-63-160-GF-PPV-A  | Linear drive |    |
| 532451   | DGC-63-200-GF-PPV-A  | Linear drive |    |
| 532451   | DGC-63-250-GF-PPV-A  | Linear drive |    |
| 532451   | DGC-63-320-GF-PPV-A  | Linear drive |    |
| 532451   | DGC-63-400-GF-PPV-A  | Linear drive |    |
| 532451   | DGC-63-500-GF-PPV-A  | Linear drive |    |
| 532451   | DGC-63-1000-GF-PPV-A | Linear drive |    |

### 3.1.10. DRVS Semi-rotary drives with rotary vane

DRVS is also available in a version for "EU Explosion Protection Directive (ATEX)". The code is "EX4" in the Identcode. This must be approved by the general contractor

| Name                    | Order code | Remarks                                                                                                                                                  | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Semi-rotary drives DRVS | DRVS-...   | Size 12, 16, 25, 32, 40 mm<br>Torque 0.15 ... 20 Nm<br>Swivel angle 90, 180, 270°<br>Position sensing<br>Fixed elastic cushioning elements on both sides |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code    | Name              | Links                                                                                                                                                                                                                                                             |
|----------|---------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1845710  | DRVS-12-90-P  | semi-rotary drive |          |
| 1845711  | DRVS-12-180-P | semi-rotary drive |          |
| 1845712  | DRVS-12-270-P | semi-rotary drive |          |
| 1845713  | DRVS-16-90-P  | semi-rotary drive |          |
| 1845714  | DRVS-16-180-P | semi-rotary drive |          |
| 1845715  | DRVS-16-270-P | semi-rotary drive |          |
| 1845716  | DRVS-25-90-P  | semi-rotary drive |          |
| 1845717  | DRVS-25-180-P | semi-rotary drive |       |
| 1845718  | DRVS-25-270-P | semi-rotary drive |    |
| 1845719  | DRVS-32-90-P  | semi-rotary drive |    |
| 1845720  | DRVS-32-180-P | semi-rotary drive |    |
| 1845721  | DRVS-32-270-P | semi-rotary drive |    |
| 1845722  | DRVS-40-90-P  | semi-rotary drive |    |
| 1845723  | DRVS-40-180-P | semi-rotary drive |    |
| 1845724  | DRVS-40-270-P | semi-rotary drive |    |

### 3.1.11. DSM Semi-rotary drives with rotary vane

| Name               | Order code | Remarks                                                                                                                          | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------|------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Swivel modules DSM | DSM-...    | Size 12, 16, 25, 32, 40, 63 mm<br>Torque 0.15 ... 80 Nm<br>Swivel angle 0 ... 270°<br>Position sensing<br>Adjustable cushioning. |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code        | Name              | Links                                                                                                                                                                                                                                                             |
|----------|-------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 547572   | DSM-12-270-CC-A-B | semi-rotary drive |    |
| 547570   | DSM-12-270-P-A-B  | semi-rotary drive |    |
| 547576   | DSM-16-270-CC-A-B | semi-rotary drive |    |
| 547574   | DSM-16-270-P-A-B  | semi-rotary drive |    |
| 547580   | DSM-25-270-CC-A-B | semi-rotary drive |    |
| 547578   | DSM-25-270-P-A-B  | semi-rotary drive |    |
| 547584   | DSM-32-270-CC-A-B | semi-rotary drive |    |
| 547582   | DSM-32-270-P-A-B  | semi-rotary drive |    |
| 547588   | DSM-40-270-CC-A-B | semi-rotary drive |    |
| 547586   | DSM-40-270-P-A-B  | semi-rotary drive |    |

### 3.1.12. DRRD Semi-rotary drives with rack and pinion

| Name                       | Order code | Remarks                                                                                                                                                                                  | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Semi-rotary drives<br>DRRD | DRRD-...   | Size 16, 20, 25, 32, 35, 40, 50, 63 mm<br>Torque 0.2 ... 112 Nm<br>Swivel angle 0 ... 180°<br>Position sensing<br>Cushioning: elastic (P), hydraulic shock<br>absorbers<br>Flanged shaft |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no.   | Order code            | Name              | Links                                                                                                                                                                                                                                                                       |
|------------|-----------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1577238    | DRRD-16-180-FH-PA     | semi-rotary drive | <a href="#">  </a> |
| 1395606    | DRRD-20-180-FH-PA     | semi-rotary drive | <a href="#">  </a> |
| 1359980    | DRRD-25-180-FH-PA     | semi-rotary drive | <a href="#">  </a> |
| 1578512    | DRRD-32-180-FH-PA     | semi-rotary drive | <a href="#">  </a> |
| 1526825    | DRRD-35-180-FH-PA     | semi-rotary drive | <a href="#">  </a> |
| 1503269    | DRRD-40-180-FH-PA     | semi-rotary drive | <a href="#">  </a> |
| 574405 (*) | DRRD-50-50-180-FH-Y9A | semi-rotary drive | <a href="#">  </a> |
| 574407 (*) | DRRD-63-180-FH-Y9A    | semi-rotary drive | <a href="#">  </a> |

(\*) It is a configurable product.

### 3.1.13. DGST Drives with slide

| Name            | Order code | Remarks                                                                                                                                                                                                        | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mini slide DGST | DGST-...   | Size 12, 16, 20, 25<br>Stroke length 10 ... 100 mm<br>Force 25 ... 589 N<br>Position sensing<br>Fixed/adjustable cushioning<br>Recirculating ball bearing guide, ball<br>bearing cage guide (for sizes 20, 25) |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no.    | Order code          | Name       | Links                                                                                                                                                                                                                                                                             |
|-------------|---------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8073894 (*) | DGST-12-10-E1A-F1A  | mini slide | <a href="#">  </a> |
| 8073894 (*) | DGST-12-25-E1A-F1A  | mini slide | <a href="#">  </a> |
| 8073894 (*) | DGST-12-50-E1A-F1A  | mini slide | <a href="#">  </a> |
| 8073894 (*) | DGST-12-80-E1A-F1A  | mini slide | <a href="#">  </a> |
| 8073894 (*) | DGST-12-100-E1A-F1A | mini slide | <a href="#">  </a> |
| 8073895 (*) | DGST-16-10-E1A-F1A  | mini slide | <a href="#">  </a> |
| 8073895 (*) | DGST-16-25-E1A-F1A  | mini slide | <a href="#">  </a> |
| 8073895 (*) | DGST-16-50-E1A-F1A  | mini slide | <a href="#">  </a> |
| 8073895 (*) | DGST-16-80-E1A-F1A  | mini slide | <a href="#">  </a> |
| 8073895 (*) | DGST-16-100-E1A-F1A | mini slide | <a href="#">  </a> |
| 8073896 (*) | DGST-20-10-E1A-F1A  | mini slide | <a href="#">  </a> |
| 8073896 (*) | DGST-20-25-E1A-F1A  | mini slide | <a href="#">  </a> |
| 8073896 (*) | DGST-20-50-E1A-F1A  | mini slide | <a href="#">  </a> |
| 8073896 (*) | DGST-20-80-E1A-F1A  | mini slide | <a href="#">  </a> |
| 8073896 (*) | DGST-20-100-E1A-F1A | mini slide | <a href="#">  </a> |

| Part no.    | Order code          | Name       | Links                                                       |
|-------------|---------------------|------------|-------------------------------------------------------------|
| 8073897 (*) | DGST-25-10-E1A-F1A  | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8073897 (*) | DGST-25-25-E1A-F1A  | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8073897 (*) | DGST-25-50-E1A-F1A  | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8073897 (*) | DGST-25-80-E1A-F1A  | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8073897 (*) | DGST-25-100-E1A-F1A | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |

(\*) It is a configurable product.

### 3.1.14. DFM Drives with guide rods

| Name                      | Order code | Remarks                                                                                                                                                                                            | Picture                                                                            | Links                                                                                                                                                                                                                                                                  |
|---------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Guided drives DFM, metric | DFM-...    | Diameter 16, 25, 32, 50, 63 mm<br>Stroke length 10 ... 200 mm<br>Force 13 ... 4712 N<br>Position sensing<br>Fixed/adjustable cushioning<br>Plain-bearing guide<br>Recirculating ball bearing guide |  | <a href="#"> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">文档</a></a><br><a href="#"> <a href="#">카타로그</a></a><br><a href="#"> <a href="#">카탈로그 및 상세 정보</a></a> |

| Part no. | Order code            | Name         | Links                                                       |
|----------|-----------------------|--------------|-------------------------------------------------------------|
| 8118830  | DFM-16-10-P-A-KF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118822  | DFM-16-10-P-A-GF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118832  | DFM-16-25-P-A-KF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118824  | DFM-16-25-P-A-GF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118834  | DFM-16-40-P-A-KF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118826  | DFM-16-40-P-A-GF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118835  | DFM-16-50-P-A-KF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118827  | DFM-16-50-P-A-GF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118836  | DFM-16-80-P-A-KF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118828  | DFM-16-80-P-A-GF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118837  | DFM-16-100-P-A-KF-F1A | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118829  | DFM-16-100-P-A-GF-F1A | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118870  | DFM-25-25-P-A-KF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118863  | DFM-25-25-P-A-GF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118872  | DFM-25-40-P-A-KF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118865  | DFM-25-40-P-A-GF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118873  | DFM-25-50-P-A-KF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118866  | DFM-25-50-P-A-GF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118874  | DFM-25-80-P-A-KF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118867  | DFM-25-80-P-A-GF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118875  | DFM-25-100-P-A-KF-F1A | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118868  | DFM-25-100-P-A-GF-F1A | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118892  | DFM-32-25-P-A-KF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118882  | DFM-32-25-P-A-GF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118894  | DFM-32-40-P-A-KF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118884  | DFM-32-40-P-A-GF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118895  | DFM-32-50-P-A-KF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118885  | DFM-32-50-P-A-GF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118896  | DFM-32-80-P-A-KF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118886  | DFM-32-80-P-A-GF-F1A  | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118897  | DFM-32-100-P-A-KF-F1A | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118887  | DFM-32-100-P-A-GF-F1A | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8118898  | DFM-32-125-P-A-KF-F1A | guided drive | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |

| Part no. | Order code            | Name         | Links                                                        |
|----------|-----------------------|--------------|--------------------------------------------------------------|
| 8118888  | DFM-32-125-P-A-GF-F1A | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118899  | DFM-32-160-P-A-KF-F1A | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118889  | DFM-32-160-P-A-GF-F1A | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118900  | DFM-32-200-P-A-KF-F1A | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118890  | DFM-32-200-P-A-GF-F1A | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118934  | DFM-50-25-P-A-KF-F1A  | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118927  | DFM-50-25-P-A-GF-F1A  | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118935  | DFM-50-50-P-A-KF-F1A  | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118928  | DFM-50-50-P-A-GF-F1A  | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118936  | DFM-50-80-P-A-KF-F1A  | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118929  | DFM-50-80-P-A-GF-F1A  | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118937  | DFM-50-100-P-A-KF-F1A | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118930  | DFM-50-100-P-A-GF-F1A | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118938  | DFM-50-125-P-A-KF-F1A | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118931  | DFM-50-125-P-A-GF-F1A | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118939  | DFM-50-160-P-A-KF-F1A | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118932  | DFM-50-160-P-A-GF-F1A | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118940  | DFM-50-200-P-A-KF-F1A | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118933  | DFM-50-200-P-A-GF-F1A | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118954  | DFM-63-25-P-A-KF-F1A  | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118947  | DFM-63-25-P-A-GF-F1A  | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118955  | DFM-63-50-P-A-KF-F1A  | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118948  | DFM-63-50-P-A-GF-F1A  | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118956  | DFM-63-80-P-A-KF-F1A  | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118949  | DFM-63-80-P-A-GF-F1A  | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118957  | DFM-63-100-P-A-KF-F1A | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118950  | DFM-63-100-P-A-GF-F1A | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118958  | DFM-63-125-P-A-KF-F1A | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118951  | DFM-63-125-P-A-GF-F1A | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118959  | DFM-63-160-P-A-KF-F1A | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118952  | DFM-63-160-P-A-GF-F1A | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118960  | DFM-63-200-P-A-KF-F1A | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8118953  | DFM-63-200-P-A-GF-F1A | guided drive | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |

### 3.1.15. DACS Clamping elements

| Name                | Order code | Remarks                                                                       | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------|------------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Holding brakes DACS | DACS-...   | Holding brake with and without load for static and rare dynamic applications. |  | <a href="#"> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">文档</a></a><br><a href="#"> <a href="#">카탈로그</a></a><br><a href="#"> <a href="#">카탈로그 및 상세 정보</a></a> |

| Part no. | Order code  | Name          | Links                                                        |
|----------|-------------|---------------|--------------------------------------------------------------|
| 8072770  | DACS-16-A-S | Holding brake | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8072771  | DACS-20-A-S | Holding brake | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8072772  | DACS-25-A-S | Holding brake | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |
| 8072773  | DACS-40-A-S | Holding brake | <a href="#">KOKI</a> <a href="#">PDF</a> <a href="#">KRD</a> |

### 3.1.16. KPE Clamping elements

| Name               | Order code | Remarks                                   | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------|------------|-------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Clamping units KPE | KPE-...    | For round material 12, 16, 20, 25, 32 mm. |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code | Name          | Links                                                                                                                                                                                                                                                                       |
|----------|------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 178466   | KPE-12     | clamping unit | <a href="#">  </a> |
| 178467   | KPE-16     | clamping unit | <a href="#">  </a> |
| 178468   | KPE-20     | clamping unit | <a href="#">  </a> |
| 178469   | KPE-25     | clamping unit | <a href="#">  </a> |
| 178470   | KPE-32     | clamping unit | <a href="#">  </a> |

## 3.2 Electric drives

The release of the components listed in this list occurs only after consultation with the specialist department.

The contractor must configure the drive in the controller in such a way that it is possible to replace the CMMT-ST without a programming device and Automation Suite.

See 4.1.1 Festo Automation Suite FAS and 4.1.2 "CMMT\_FullParam" function block.

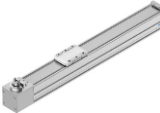
Memory reserves of the controller must be considered; if necessary, swap out to the load memory.

This does not release the contractor from handing over the complete Automation Suite project to the client as part of the documentation.

As an alternative to the stepper motors listed here and the types mentioned in section 4.3, the approved SERVO motors from the electrical specifications can still be used.

### 3.2.1. ELGC-TB Electric axes

Special strokes and strokes > 1000mm require a special release.

| Name                      | Order code | Remarks                                                                                                                | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------|------------|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Toothed belt axes ELGC-TB | ELGC-...   | Size 45, 60, 80<br>Stroke length: 200 ... 1000 mm<br>Force 75 ... 250 N<br>Integrated recirculating ball bearing guide |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code         | Name              | Links                                   |
|----------|--------------------|-------------------|-----------------------------------------|
| 8062768  | ELGC-TB-KF-45-200  | toothed belt axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8062769  | ELGC-TB-KF-45-300  | toothed belt axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8062770  | ELGC-TB-KF-45-500  | toothed belt axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8062771  | ELGC-TB-KF-45-600  | toothed belt axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8062772  | ELGC-TB-KF-45-800  | toothed belt axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8062773  | ELGC-TB-KF-45-1000 | toothed belt axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8062776  | ELGC-TB-KF-60-200  | toothed belt axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8062777  | ELGC-TB-KF-60-300  | toothed belt axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8062778  | ELGC-TB-KF-60-500  | toothed belt axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8062779  | ELGC-TB-KF-60-600  | toothed belt axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8062780  | ELGC-TB-KF-60-800  | toothed belt axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8062781  | ELGC-TB-KF-60-1000 | toothed belt axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8062786  | ELGC-TB-KF-80-200  | toothed belt axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8062787  | ELGC-TB-KF-80-300  | toothed belt axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8062788  | ELGC-TB-KF-80-500  | toothed belt axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8062789  | ELGC-TB-KF-80-600  | toothed belt axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8062790  | ELGC-TB-KF-80-800  | toothed belt axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8062791  | ELGC-TB-KF-80-1000 | toothed belt axis | <a href="#">PDF</a> <a href="#">CAD</a> |

### 3.2.2. ELGC-BS Electric axes

| Name                 | Order code | Remarks                                                                                                               | Picture                                                                              | Links                                                                                                                                                                                                                                                                  |
|----------------------|------------|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Spindle axes ELGC-BS | ELGC-...   | Size 32, 45, 60<br>Stroke length 100 ... 800 mm<br>Force 110 ... 780 N<br>Integrated recirculating ball bearing guide |  | <a href="#"> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">文档</a></a><br><a href="#"> <a href="#">카타로그</a></a><br><a href="#"> <a href="#">카탈로그 및 상세 정보</a></a> |

| Part no. | Order code            | Name         | Links                                   |
|----------|-----------------------|--------------|-----------------------------------------|
| 8061477  | ELGC-BS-KF-32-100-8P  | spindle axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8061478  | ELGC-BS-KF-32-200-8P  | spindle axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8061479  | ELGC-BS-KF-32-300-8P  | spindle axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8061480  | ELGC-BS-KF-32-400-8P  | spindle axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8061481  | ELGC-BS-KF-32-500-8P  | spindle axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8061482  | ELGC-BS-KF-32-600-8P  | spindle axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8061483  | ELGC-BS-KF-32-800-8P  | spindle axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8061484  | ELGC-BS-KF-45-100-10P | spindle axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8061485  | ELGC-BS-KF-45-200-10P | spindle axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8061486  | ELGC-BS-KF-45-300-10P | spindle axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8061487  | ELGC-BS-KF-45-400-10P | spindle axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8061488  | ELGC-BS-KF-45-500-10P | spindle axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8061489  | ELGC-BS-KF-45-600-10P | spindle axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8061490  | ELGC-BS-KF-45-800-10P | spindle axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8061492  | ELGC-BS-KF-60-200-12P | spindle axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8061493  | ELGC-BS-KF-60-300-12P | spindle axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8061494  | ELGC-BS-KF-60-400-12P | spindle axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8061495  | ELGC-BS-KF-60-500-12P | spindle axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8061496  | ELGC-BS-KF-60-600-12P | spindle axis | <a href="#">PDF</a> <a href="#">CAD</a> |
| 8061497  | ELGC-BS-KF-60-800-12P | spindle axis | <a href="#">PDF</a> <a href="#">CAD</a> |

### 3.2.3. EGC-BS Spindle axes

Special strokes and strokes > 1000mm require a special release.

| Name                | Order code | Remarks                                                                     | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------|------------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Spindle axes EGC-BS | EGC-...    | Size 80, 120, 185<br>Stroke length 100 ... 1000 mm<br>Force 300 ... 3000 N. |  |  <a href="#">Catalogue</a><br> <a href="#">Documentation</a><br> <a href="#">电子目录</a><br> <a href="#">文档</a><br> <a href="#">카타로그</a><br> <a href="#">카탈로그 및 상세 정보</a> |

| Part no.   | Order code                        | Name         | Links                                                                        |
|------------|-----------------------------------|--------------|------------------------------------------------------------------------------|
| 556808 (*) | EGC-80-100-BS-20P-KF-0H-ML-GK-C   | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556808 (*) | EGC-80-200-BS-20P-KF-0H-ML-GK-C   | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556808 (*) | EGC-80-300-BS-20P-KF-0H-ML-GK-C   | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556808 (*) | EGC-80-400-BS-20P-KF-0H-ML-GK-C   | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556808 (*) | EGC-80-500-BS-20P-KF-0H-ML-GK-C   | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556808 (*) | EGC-80-600-BS-20P-KF-0H-ML-GK-C   | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556808 (*) | EGC-80-700-BS-20P-KF-0H-ML-GK-C   | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556808 (*) | EGC-80-800-BS-20P-KF-0H-ML-GK-C   | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556808 (*) | EGC-80-900-BS-20P-KF-0H-ML-GK-C   | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556808 (*) | EGC-80-1000-BS-20P-KF-0H-ML-GK-C  | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556809 (*) | EGC-120-100-BS-25P-KF-0H-ML-GK-C  | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556809 (*) | EGC-120-200-BS-25P-KF-0H-ML-GK-C  | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556809 (*) | EGC-120-300-BS-25P-KF-0H-ML-GK-C  | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556809 (*) | EGC-120-400-BS-25P-KF-0H-ML-GK-C  | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556809 (*) | EGC-120-500-BS-25P-KF-0H-ML-GK-C  | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556809 (*) | EGC-120-600-BS-25P-KF-0H-ML-GK-C  | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556809 (*) | EGC-120-700-BS-25P-KF-0H-ML-GK-C  | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556809 (*) | EGC-120-800-BS-25P-KF-0H-ML-GK-C  | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556809 (*) | EGC-120-900-BS-25P-KF-0H-ML-GK-C  | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556809 (*) | EGC-120-1000-BS-25P-KF-0H-ML-GK-C | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556811 (*) | EGC-185-100-BS-40P-KF-0H-ML-GK-C  | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556811 (*) | EGC-185-200-BS-40P-KF-0H-ML-GK-C  | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556811 (*) | EGC-185-300-BS-40P-KF-0H-ML-GK-C  | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556811 (*) | EGC-185-400-BS-40P-KF-0H-ML-GK-C  | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556811 (*) | EGC-185-500-BS-40P-KF-0H-ML-GK-C  | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556811 (*) | EGC-185-600-BS-40P-KF-0H-ML-GK-C  | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556811 (*) | EGC-185-700-BS-40P-KF-0H-ML-GK-C  | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556811 (*) | EGC-185-800-BS-40P-KF-0H-ML-GK-C  | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556811 (*) | EGC-185-900-BS-40P-KF-0H-ML-GK-C  | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |
| 556811 (*) | EGC-185-1000-BS-40P-KF-0H-ML-GK-C | spindle axis | <a href="#">Catalogue</a> <a href="#">Documentation</a> <a href="#">电子目录</a> |

(\*) It is a configurable product.

### 3.2.4. ELGA-TB-KF Electric axes

Special strokes and strokes > 1000mm require a special release.

| Name                         | Order code | Remarks                                                                                                                | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------|------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Toothed belt axes ELGA-TB-KF | ELGA-...   | Size 70, 80, 120<br>Stroke length 100 - 1000 mm<br>Force 350 ... 2000 N<br>Integrated recirculating ball bearing guide |  |  <a href="#">Catalogue</a><br> <a href="#">Documentation</a><br> <a href="#">电子目录</a><br> <a href="#">文档</a><br> <a href="#">카타로그</a><br> <a href="#">카탈로그 및 상세 정보</a> |

| Part no.    | Order code             | Name              | Links                   |
|-------------|------------------------|-------------------|-------------------------|
| 8024914 (*) | ELGA-TB-KF-70-100-0H   | toothed belt axis | <a href="#">PDF CAD</a> |
| 8024914 (*) | ELGA-TB-KF-70-200-0H   | toothed belt axis | <a href="#">PDF CAD</a> |
| 8041851     | ELGA-TB-KF-70-300-0H   | toothed belt axis | <a href="#">PDF CAD</a> |
| 8041852     | ELGA-TB-KF-70-400-0H   | toothed belt axis | <a href="#">PDF CAD</a> |
| 8041853     | ELGA-TB-KF-70-500-0H   | toothed belt axis | <a href="#">PDF CAD</a> |
| 8041854     | ELGA-TB-KF-70-600-0H   | toothed belt axis | <a href="#">PDF CAD</a> |
| 8024914 (*) | ELGA-TB-KF-70-700-0H   | toothed belt axis | <a href="#">PDF CAD</a> |
| 8041855     | ELGA-TB-KF-70-800-0H   | toothed belt axis | <a href="#">PDF CAD</a> |
| 8024914 (*) | ELGA-TB-KF-70-900-0H   | toothed belt axis | <a href="#">PDF CAD</a> |
| 8041856     | ELGA-TB-KF-70-1000-0H  | toothed belt axis | <a href="#">PDF CAD</a> |
| 8024915 (*) | ELGA-TB-KF-80-100-0H   | toothed belt axis | <a href="#">PDF CAD</a> |
| 8024915 (*) | ELGA-TB-KF-80-200-0H   | toothed belt axis | <a href="#">PDF CAD</a> |
| 8024915 (*) | ELGA-TB-KF-80-300-0H   | toothed belt axis | <a href="#">PDF CAD</a> |
| 8041858     | ELGA-TB-KF-80-400-0H   | toothed belt axis | <a href="#">PDF CAD</a> |
| 8041859     | ELGA-TB-KF-80-500-0H   | toothed belt axis | <a href="#">PDF CAD</a> |
| 8041860     | ELGA-TB-KF-80-600-0H   | toothed belt axis | <a href="#">PDF CAD</a> |
| 8024915 (*) | ELGA-TB-KF-80-700-0H   | toothed belt axis | <a href="#">PDF CAD</a> |
| 8041861     | ELGA-TB-KF-80-800-0H   | toothed belt axis | <a href="#">PDF CAD</a> |
| 8024915 (*) | ELGA-TB-KF-80-900-0H   | toothed belt axis | <a href="#">PDF CAD</a> |
| 8041862     | ELGA-TB-KF-80-1000-0H  | toothed belt axis | <a href="#">PDF CAD</a> |
| 8024916 (*) | ELGA-TB-KF-120-100-0H  | toothed belt axis | <a href="#">PDF CAD</a> |
| 8024916 (*) | ELGA-TB-KF-120-200-0H  | toothed belt axis | <a href="#">PDF CAD</a> |
| 8024916 (*) | ELGA-TB-KF-120-300-0H  | toothed belt axis | <a href="#">PDF CAD</a> |
| 8041864     | ELGA-TB-KF-120-400-0H  | toothed belt axis | <a href="#">PDF CAD</a> |
| 8041865     | ELGA-TB-KF-120-500-0H  | toothed belt axis | <a href="#">PDF CAD</a> |
| 8041866     | ELGA-TB-KF-120-600-0H  | toothed belt axis | <a href="#">PDF CAD</a> |
| 8024916 (*) | ELGA-TB-KF-120-700-0H  | toothed belt axis | <a href="#">PDF CAD</a> |
| 8041867     | ELGA-TB-KF-120-800-0H  | toothed belt axis | <a href="#">PDF CAD</a> |
| 8024916 (*) | ELGA-TB-KF-120-900-0H  | toothed belt axis | <a href="#">PDF CAD</a> |
| 8041868     | ELGA-TB-KF-120-1000-0H | toothed belt axis | <a href="#">PDF CAD</a> |

(\*) It is a configurable product.

### 3.2.5. ESBF Electric cylinders and slides

Special strokes and strokes > 1000mm require a special release.

| Name                   | Order code | Remarks                                                                                                                                                                                    | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Electric cylinder ESBF | ESBF-...   | Size 32, 40, 50, 63, 80, 100<br>Stroke length 100 ... 600 mm<br>Force: 600 ... 17000 N<br>Motor can be mounted using axial or parallel kit<br>Linear drive with ball screw in Clean Design |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no.    | Order code         | Name              | Links                                                                                                                                                                                                                                                             |
|-------------|--------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8022565     | ESBF-BS-32-100-10P | electric cylinder |          |
| 8022562     | ESBF-BS-32-100-5P  | electric cylinder |          |
| 8022566     | ESBF-BS-32-200-10P | electric cylinder |          |
| 2215384     | ESBF-BS-32-200-5P  | electric cylinder |          |
| 8022567     | ESBF-BS-32-300-10P | electric cylinder |          |
| 8022563     | ESBF-BS-32-300-5P  | electric cylinder |          |
| 8022568     | ESBF-BS-32-400-10P | electric cylinder |          |
| 8022564     | ESBF-BS-32-400-5P  | electric cylinder |       |
| 8022585 (*) | ESBF-BS-40-600-10P | electric cylinder |    |
| 8022585 (*) | ESBF-BS-40-600-5P  | electric cylinder |    |
| 8022577     | ESBF-BS-40-100-10P | electric cylinder |    |
| 8022581     | ESBF-BS-40-100-16P | electric cylinder |    |
| 8022574     | ESBF-BS-40-100-5P  | electric cylinder |    |
| 8022578     | ESBF-BS-40-200-10P | electric cylinder |    |
| 8022582     | ESBF-BS-40-200-16P | electric cylinder |    |
| 2215385     | ESBF-BS-40-200-5P  | electric cylinder |    |
| 8022579     | ESBF-BS-40-300-10P | electric cylinder |    |
| 8022583     | ESBF-BS-40-300-16P | electric cylinder |    |
| 8022575     | ESBF-BS-40-300-5P  | electric cylinder |    |
| 8022580     | ESBF-BS-40-400-10P | electric cylinder |    |
| 8022584     | ESBF-BS-40-400-16P | electric cylinder |    |
| 8022576     | ESBF-BS-40-400-5P  | electric cylinder |    |
| 8022593     | ESBF-BS-50-100-10P | electric cylinder |    |
| 8022597     | ESBF-BS-50-100-20P | electric cylinder |    |
| 8022590     | ESBF-BS-50-100-5P  | electric cylinder |    |
| 8022594     | ESBF-BS-50-200-10P | electric cylinder |    |
| 8022598     | ESBF-BS-50-200-20P | electric cylinder |    |
| 2215386     | ESBF-BS-50-200-5P  | electric cylinder |    |
| 8022595     | ESBF-BS-50-300-10P | electric cylinder |    |
| 8022599     | ESBF-BS-50-300-20P | electric cylinder |    |
| 8022591     | ESBF-BS-50-300-5P  | electric cylinder |    |
| 8022596     | ESBF-BS-50-400-10P | electric cylinder |    |
| 8022600     | ESBF-BS-50-400-20P | electric cylinder |    |
| 8022592     | ESBF-BS-50-400-5P  | electric cylinder |    |
| 574096      | ESBF-BS-63-100-10P | electric cylinder |    |
| 574100      | ESBF-BS-63-100-25P | electric cylinder |    |
| 574093      | ESBF-BS-63-100-5P  | electric cylinder |    |
| 574097      | ESBF-BS-63-200-10P | electric cylinder |    |
| 574101      | ESBF-BS-63-200-25P | electric cylinder |    |
| 1347390     | ESBF-BS-63-200-5P  | electric cylinder |    |

| Part no. | Order code          | Name              | Links                                                       |
|----------|---------------------|-------------------|-------------------------------------------------------------|
| 574098   | ESBF-BS-63-300-10P  | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574102   | ESBF-BS-63-300-25P  | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574094   | ESBF-BS-63-300-5P   | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574099   | ESBF-BS-63-400-10P  | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574103   | ESBF-BS-63-400-25P  | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574095   | ESBF-BS-63-400-5P   | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574107   | ESBF-BS-80-100-15P  | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574111   | ESBF-BS-80-100-32P  | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574104   | ESBF-BS-80-100-5P   | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574108   | ESBF-BS-80-200-15P  | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574112   | ESBF-BS-80-200-32P  | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1347391  | ESBF-BS-80-200-5P   | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574109   | ESBF-BS-80-300-15P  | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574113   | ESBF-BS-80-300-32P  | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574105   | ESBF-BS-80-300-5P   | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574110   | ESBF-BS-80-400-15P  | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574114   | ESBF-BS-80-400-32P  | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574106   | ESBF-BS-80-400-5P   | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574118   | ESBF-BS-100-100-20P | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574122   | ESBF-BS-100-100-40P | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574115   | ESBF-BS-100-100-5P  | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574119   | ESBF-BS-100-200-20P | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574123   | ESBF-BS-100-200-40P | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1347393  | ESBF-BS-100-200-5P  | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574120   | ESBF-BS-100-300-20P | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574124   | ESBF-BS-100-300-40P | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574116   | ESBF-BS-100-300-5P  | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574121   | ESBF-BS-100-400-20P | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574125   | ESBF-BS-100-400-40P | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 574117   | ESBF-BS-100-400-5P  | electric cylinder | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |

(\*) It is a configurable product.

### 3.2.6. EGSC Electric cylinders and slides

| Name             | Order code | Remarks                                                                                           | Picture                                                                              | Links                                                                                                                                                                                                                                                                  |
|------------------|------------|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mini-slides EGSC | EGSC-...   | Size 25, 32, 45, 60<br>Stroke length 25 ... 200 mm<br>Integrated recirculating ball bearing guide |  | <a href="#"> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">文档</a></a><br><a href="#"> <a href="#">카타로그</a></a><br><a href="#"> <a href="#">카탈로그 및 상세 정보</a></a> |

| Part no. | Order code           | Name       | Links                                                       |
|----------|----------------------|------------|-------------------------------------------------------------|
| 8048310  | EGSC-BS-KF-25-25-6P  | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8048311  | EGSC-BS-KF-25-50-6P  | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8061280  | EGSC-BS-KF-25-75-6P  | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8048306  | EGSC-BS-KF-32-25-8P  | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8048307  | EGSC-BS-KF-32-50-8P  | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8048308  | EGSC-BS-KF-32-75-8P  | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 4356032  | EGSC-BS-KF-32-100-8P | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8048300  | EGSC-BS-KF-45-25-10P | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |

| Part no. | Order code            | Name       | Links                                                       |
|----------|-----------------------|------------|-------------------------------------------------------------|
| 8048301  | EGSC-BS-KF-45-50-10P  | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8048302  | EGSC-BS-KF-45-75-10P  | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 4022926  | EGSC-BS-KF-45-100-10P | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8048303  | EGSC-BS-KF-45-125-10P | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8048304  | EGSC-BS-KF-45-150-10P | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8048362  | EGSC-BS-KF-60-50-12P  | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8048363  | EGSC-BS-KF-60-75-12P  | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 4356469  | EGSC-BS-KF-60-100-12P | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8048364  | EGSC-BS-KF-60-125-12P | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8048365  | EGSC-BS-KF-60-150-12P | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 8048366  | EGSC-BS-KF-60-200-12P | mini slide | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |

### 3.2.7. EMMS-ST Stepper motors

| Name                  | Order code | Remarks                                                                                                                                                     | Picture                                                                            | Links                                                                                                                                                                                                                                                                  |
|-----------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EMMS-ST stepper motor | EMMS-...   | Size 28, 42, 57, 87<br>Holding torque 0.09 ... 8.6 Nm<br>Voltage 48 V DC<br>Nominal current 1.4 ... 9.5 A<br>Suitable motor cable<br>Suitable motor flange. |  | <a href="#"> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">文档</a></a><br><a href="#"> <a href="#">카탈로그</a></a><br><a href="#"> <a href="#">카탈로그 및 상세 정보</a></a> |

| Part no. | Order code          | Name          | Links                                                       |
|----------|---------------------|---------------|-------------------------------------------------------------|
| 1430663  | EMMS-ST-28-L-SE     | stepper motor | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1451382  | EMMS-ST-28-L-SEB    | stepper motor | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1370473  | EMMS-ST-42-S-SEB-G2 | stepper motor | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1370471  | EMMS-ST-42-S-SE-G2  | stepper motor | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1370481  | EMMS-ST-57-M-SEB-G2 | stepper motor | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1370479  | EMMS-ST-57-M-SE-G2  | stepper motor | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1370477  | EMMS-ST-57-S-SEB-G2 | stepper motor | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1370475  | EMMS-ST-57-S-SE-G2  | stepper motor | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1370494  | EMMS-ST-87-L-SEB-G2 | stepper motor | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1370491  | EMMS-ST-87-L-SE-G2  | stepper motor | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1370489  | EMMS-ST-87-M-SEB-G2 | stepper motor | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1370487  | EMMS-ST-87-M-SE-G2  | stepper motor | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1370485  | EMMS-ST-87-S-SEB-G2 | stepper motor | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 1370483  | EMMS-ST-87-S-SE-G2  | stepper motor | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |

### 3.2.8. EMGA Gear units

| Name            | Order code | Remarks                                                                                                                                                                | Picture                                                                              | Links                                                                                                                                                                                                                                                                  |
|-----------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Gear units EMGA | EMGA-...   | Low backlash planetary gear unit for<br>electromechanical drives<br>Gear ratio $i = 3, 5, 8, 12, 20$ , in stock<br>Life-time lubrication<br>Degree of protection: IP54 |  | <a href="#"> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">文档</a></a><br><a href="#"> <a href="#">카탈로그</a></a><br><a href="#"> <a href="#">카탈로그 및 상세 정보</a></a> |

| Part no. | Order code            | Name      | Links                                                                                                                                                                                                                                                             |
|----------|-----------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8085342  | EMGA-40-A-G3-40P      | gear unit |          |
| 8085343  | EMGA-40-A-G5-40P      | gear unit |          |
| 2297684  | EMGA-40-P-G3-EAS-40   | gear unit |          |
| 549428   | EMGA-40-P-G3-SST-42   | gear unit |          |
| 2297685  | EMGA-40-P-G5-EAS-40   | gear unit |          |
| 549429   | EMGA-40-P-G5-SST-42   | gear unit |          |
| 8085344  | EMGA-60-A-G3-60P      | gear unit |          |
| 8085345  | EMGA-60-A-G5-60P      | gear unit |          |
| 2297686  | EMGA-60-P-G3-EAS-60   | gear unit |          |
| 552188   | EMGA-60-P-G3-SAS-55   | gear unit |          |
| 552190   | EMGA-60-P-G3-SAS-70   | gear unit |          |
| 549430   | EMGA-60-P-G3-SST-57   | gear unit |          |
| 2297687  | EMGA-60-P-G5-EAS-60   | gear unit |          |
| 552189   | EMGA-60-P-G5-SAS-55   | gear unit |          |
| 552191   | EMGA-60-P-G5-SAS-70   | gear unit |          |
| 549431   | EMGA-60-P-G5-SST-57   | gear unit |          |
| 8085348  | EMGA-80-A-G3-100A     | gear unit |          |
| 8085346  | EMGA-80-A-G3-80P      | gear unit |          |
| 8085349  | EMGA-80-A-G5-100A     | gear unit |          |
| 8085347  | EMGA-80-A-G5-80P      | gear unit |          |
| 2297690  | EMGA-80-P-G3-EAS-80   | gear unit |          |
| 552194   | EMGA-80-P-G3-SAS-100  | gear unit |          |
| 549432   | EMGA-80-P-G3-SST-87   | gear unit |          |
| 2297691  | EMGA-80-P-G5-EAS-80   | gear unit |          |
| 552195   | EMGA-80-P-G5-SAS-100  | gear unit |          |
| 549433   | EMGA-80-P-G5-SST-87   | gear unit |          |
| 552196   | EMGA-120-P-G3-SAS-100 | gear unit |       |
| 552198   | EMGA-120-P-G3-SAS-140 | gear unit |    |
| 552197   | EMGA-120-P-G5-SAS-100 | gear unit |    |
| 552199   | EMGA-120-P-G5-SAS-140 | gear unit |    |
| 552200   | EMGA-160-P-G3-SAS-140 | gear unit |    |
| 552201   | EMGA-160-P-G5-SAS-140 | gear unit |    |

### 3.2.9. CMMT-ST Controller for stepper motors

| Name                | Order code | Remarks                                                                   | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------|------------|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Servo drive CMMT-ST | CMMT-...   | Voltage 24, 48 V DC<br>Nominal current 8 A (peak 10A)<br>Power up to 300W |  |   <a href="#">Catalogue</a><br>  <a href="#">Documentation</a><br>  <a href="#">电子目录</a><br>  <a href="#">文档</a><br>  <a href="#">카타로그</a><br>  <a href="#">카탈로그 및 상세 정보</a> |

| Part no. | Order code          | Name        | Links                                                                                                                                                                                                                                                             |
|----------|---------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8084005  | CMMT-ST-C8-1C-EC-S0 | servo drive |    |
| 8084004  | CMMT-ST-C8-1C-PN-S0 | servo drive |    |

**Note:**

The parameter set must be stored in the controller in accordance with VW specifications in order to enable commissioning without Festo Automation Suite in the event of replacement.

Support and details can be found in chapter 4.1.2.

### 3.3 Vacuum technology

#### 3.3.1. OVEL Vacuum generators

| Name                   | Order code | Remarks                                                                                                                                                                     | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Vacuum generators OVEL | OVEL-...   | Nominal size 0.45 ... 0.95 mm<br>Connection<br>- push-in connector QS3, QS4, QS6<br>Vacuum solenoid valve ON/OFF<br>Optional with ejector pulse<br>Integrated vacuum sensor |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code                           | Name             | Links                                                                                                                                                                                                                                                                       |
|----------|--------------------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8069571  | OVEL-7-H-15-PQ-VQ4-UA-C-A-B2PNLK-H3  | vacuum generator | <a href="#">  </a> |
| 8069572  | OVEL-10-H-15-PQ-VQ6-UA-C-A-B2PNLK-H3 | vacuum generator | <a href="#">  </a> |

#### 3.3.2. OVEM Vacuum generators

| Name                          | Order code | Remarks                                                                                                                                                               | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OVEM vacuum generator, metric | OVEM-...   | Nominal diameter 0.45 ... 2.0 mm<br>Port<br>-Plug connector QS6, QS8<br>Solenoid valve vacuum IN/OUT<br>Solenoid valve for ejector pulse<br>Integrated vacuum switch. |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no.   | Order code             | Name             | Links                                                                                                                                                                                                                                                                             |
|------------|------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 539074 (*) | OVEM-07-H-B-GN-OE-N-2P | vacuum generator | <a href="#">  </a> |
| 539074 (*) | OVEM-10-H-B-GN-OE-N-2P | vacuum generator | <a href="#">  </a> |
| 539074 (*) | OVEM-14-H-B-GN-OE-N-2P | vacuum generator | <a href="#">  </a> |
| 539074 (*) | OVEM-20-H-B-GN-OE-N-2P | vacuum generator | <a href="#">  </a> |

(\*) It is a configurable product.

#### 3.3.3. VN Vacuum generators

| Name                            | Order code | Remarks                                                                                                                                                                                                                                                                             | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Vacuum generators VN, pneumatic | VN-...     | Nominal size 0.45 to 3 mm<br>Connection<br>-Plug connector QS4, QS6, QS8, QS10, QS12<br>-Thread M5, G1/8, G1/4, G3/8<br>-Push-in sleeve 4.6 mm<br>Standard<br>-Vacuum port 90° to supply port<br>Inline<br>-Vacuum port in line with supply port<br>Ejector pulse valve, pneumatic. |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code             | Name             | Links                                                       |
|----------|------------------------|------------------|-------------------------------------------------------------|
| 193498   | VN-05-H-T3-PI4-VI4-RI4 | vacuum generator | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 193499   | VN-07-H-T3-PI4-VI4-RI4 | vacuum generator | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 193500   | VN-10-H-T3-PI4-VI4-RI4 | vacuum generator | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 193502   | VN-14-H-T4-PI4-VI5-RI5 | vacuum generator | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |

### 3.4 Valves

#### 3.4.1. VUVG Universal directional control valves

| Name                                   | Order code | Remarks                                                                                                                                                                                                                                                                                                 | Picture                                                                            | Links                                                                                                                                                                                                                                                                  |
|----------------------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Valves VUVG, for individual connection | VUVG-...   | Connection M7, G1/8, G1/4<br>Push-in connector 3, 4, 6, 8, 10 mm<br>Flow rate 90 ... 1380 l/min<br>Pressure range -0.9 ... 10 bar<br>Temperature range -5 ... +60°C<br>Voltage 5, 12 24 V DC<br>In-line valves, sub-base valves<br>Solenoid actuated, piloted<br>Pneumatic and mechanical spring return |  | <a href="#"> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">文档</a></a><br><a href="#"> <a href="#">카탈로그</a></a><br><a href="#"> <a href="#">카탈로그 및 상세 정보</a></a> |

| Part no.   | Order code                | Name           | Links                                                       |
|------------|---------------------------|----------------|-------------------------------------------------------------|
| 564212 (*) | VUVG-L10-M52-MH-M7-1R8L   | solenoid valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 564212 (*) | VUVG-L10-B52-H-M7-1R8L    | solenoid valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 564212 (*) | VUVG-L10-P53E-H-M7-1R8L   | solenoid valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 564212 (*) | VUVG-L10-P53U-H-M7-1R8L   | solenoid valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 564212 (*) | VUVG-L10-T32C-MH-M7-1R8L  | solenoid valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 564212 (*) | VUVG-L14-M52-MH-G18-1R8L  | solenoid valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 564212 (*) | VUVG-L14-B52-H-G18-1R8L   | solenoid valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 564212 (*) | VUVG-L14-P53E-H-G18-1R8L  | solenoid valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 564212 (*) | VUVG-L14-P53U-H-G18-1R8L  | solenoid valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 564212 (*) | VUVG-L14-T32C-MH-G18-1R8L | solenoid valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 564212 (*) | VUVG-L18-M52-MH-G14-1R8L  | solenoid valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 564212 (*) | VUVG-L18-B52-H-G14-1R8L   | solenoid valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 564212 (*) | VUVG-L18-P53E-H-G14-1R8L  | solenoid valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 564212 (*) | VUVG-L18-P53U-H-G14-1R8L  | solenoid valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 564212 (*) | VUVG-L18-T32C-MH-G14-1R8L | solenoid valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |

(\*) It is a configurable product.

#### 3.4.2. VUVG, plug-in Universal directional control valves

| Name                 | Order code | Remarks                                                                                                                                                                                                                       | Picture                                                                              | Links                                                                                                                                                                                                                                                                  |
|----------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Valves VUVG, plug-in | VUVG-...   | Port M5, M7, G1/8, G1/4<br>Push-in connector 3, 4, 6, 8 mm<br>Flow rate 130 ... 1200 l/min<br>Voltage 24 V DC<br>Semi in-line valves, sub-base valves<br>Solenoid actuated, piloted<br>Pneumatic and mechanical spring return |  | <a href="#"> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">文档</a></a><br><a href="#"> <a href="#">카탈로그</a></a><br><a href="#"> <a href="#">카탈로그 및 상세 정보</a></a> |

| Part no. | Order code                  | Name           | Links                                                        |
|----------|-----------------------------|----------------|--------------------------------------------------------------|
| 8150398  | VUVG-B10-B52-ZT-F-1T1L-F1A  | solenoid valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8150460  | VUVG-B10-M52-MZT-F-1T1L-F1A | solenoid valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8141522  | VUVG-B10-P53E-ZT-F-1T1L-F1A | solenoid valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8141523  | VUVG-B10-P53U-ZT-F-1T1L-F1A | solenoid valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8150401  | VUVG-B14-B52-ZT-F-1T1L-F1A  | solenoid valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8150461  | VUVG-B14-M52-MZT-F-1T1L-F1A | solenoid valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8141533  | VUVG-B14-P53E-ZT-F-1T1L-F1A | solenoid valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8141534  | VUVG-B14-P53U-ZT-F-1T1L-F1A | solenoid valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |

### 3.4.3. VUWG Universal directional control valves

| Name        | Order code | Remarks                                                                                                                 | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------|------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Valves VUWG | VUWG-...   | Connection M7, G1/8, G1/4<br>Flow 90 ... 1380 l/min<br>- Pneumatically activated, piloted<br>- mechanical spring return |  | <a href="#"> <a href="#">LDKI</a> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">PDF</a> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">LDKI</a> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">PDF</a> <a href="#">文档</a></a><br><a href="#"> <a href="#">LDKI</a> <a href="#">카탈로그</a></a><br><a href="#"> <a href="#">PDF</a> <a href="#">카탈로그 및 상세 정보</a></a> |

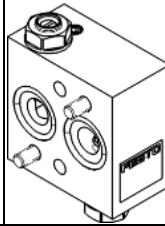
| Part no. | Order code          | Name            | Links                                                        |
|----------|---------------------|-----------------|--------------------------------------------------------------|
| 573825   | VUWG-L10-B52-M7     | pneumatic valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 574258   | VUWG-L10-M52-M-M7   | pneumatic valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 573827   | VUWG-L10-P53E-M7    | pneumatic valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 573828   | VUWG-L10-P53U-M7    | pneumatic valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 574255   | VUWG-L10-T32C-M-M7  | pneumatic valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 573833   | VUWG-L14-B52-G18    | pneumatic valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 574262   | VUWG-L14-M52-M-G18  | pneumatic valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 573835   | VUWG-L14-P53E-G18   | pneumatic valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 573836   | VUWG-L14-P53U-G18   | pneumatic valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 574259   | VUWG-L14-T32C-M-G18 | pneumatic valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 574271   | VUWG-L18-B52-G14    | pneumatic valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 574270   | VUWG-L18-M52-M-G14  | pneumatic valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 574273   | VUWG-L18-P53E-G14   | pneumatic valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 574274   | VUWG-L18-P53U-G14   | pneumatic valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 574266   | VUWG-L18-T32C-M-G14 | pneumatic valve | <a href="#">LDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |

### 3.4.4. VSNC Universal directional control valves

| Name                 | Order code | Remarks                                                                                                                                                                                                                                                                                                         | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Solenoid valves VSNC |            | Connection: G½, NPT½<br>Flow rate: 900 ... 1000 l/min<br>Voltage: 12, 24, 48 V DC, 24, 48, 120, 230 V AC<br>NAMUR port pattern to VDE/VDI 3845<br>Solenoid-actuated, piloted<br>Mechanical spring return<br>Diverse Ex solenoid systems, IEC Ex, FM EX<br>Convertible from 5/2-way function to 3/2-way function |  | <a href="#"> <a href="#">LDKI</a> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">PDF</a> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">LDKI</a> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">PDF</a> <a href="#">文档</a></a><br><a href="#"> <a href="#">LDKI</a> <a href="#">카탈로그</a></a><br><a href="#"> <a href="#">PDF</a> <a href="#">카탈로그 및 상세 정보</a></a> |

|             |                      |                                                                                               |                                                                                    |  |
|-------------|----------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--|
| Plug socket | MSSD-C-24-LED-M12-SA | Is accessory of solenoid coil<br><br>Connection crosssection:<br>0,75... 1,5mm <sup>2</sup> . |  |  |
|-------------|----------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--|

| Part no. | Order code | Name           | Links                                                       |
|----------|------------|----------------|-------------------------------------------------------------|
| 8026033  | VSNC       | solenoid valve | <a href="#">KDI</a> <a href="#">PDF</a> <a href="#">CAD</a> |

| Name               | Order code            | Remarks         | Picture                                                                            | Links                   |
|--------------------|-----------------------|-----------------|------------------------------------------------------------------------------------|-------------------------|
| Flow control plate | VABF-1/8-CS-1637036-A | Connection G1/8 |  | <a href="#">Drawing</a> |

| Part no. | Order code            | Name               | Links                   |
|----------|-----------------------|--------------------|-------------------------|
| 23297733 | VABF-1/8-CS-1637036-A | Flow control plate | <a href="#">Drawing</a> |

### 3.4.5. HGL Non-return valves and quick exhaust valves

| Name                     | Order code                                                  | Remarks                                                                                                                   | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Piloted check valves HGL | HGL-...<br><br>Only in connection with manual override HAB! | Port M5, G1/8, G1/4, G3/8, G1/2<br>Flow rate 130 ... 1600 l/min<br>Shut-off valve<br>- Pneumatic piloted non-return valve |  | <a href="#"> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">文档</a></a><br><a href="#"> <a href="#">카타로그</a></a><br><a href="#"> <a href="#">카탈로그 및 상세 정보</a></a> |

| Part no. | Order code | Name                | Links                                                       |
|----------|------------|---------------------|-------------------------------------------------------------|
| 530033   | HGL-1/2-B  | Piloted check valve | <a href="#">KDI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 530031   | HGL-1/4-B  | Piloted check valve | <a href="#">KDI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 530030   | HGL-1/8-B  | Piloted check valve | <a href="#">KDI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 530032   | HGL-3/8-B  | Piloted check valve | <a href="#">KDI</a> <a href="#">PDF</a> <a href="#">CAD</a> |

### 3.4.6. HAB Manuel override

| Name                | Order code | Remarks                       | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------|------------|-------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manual override HAB | HAB-...    | Hand lever<br>Manual override |  | <a href="#"> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">文档</a></a><br><a href="#"> <a href="#">카타로그</a></a><br><a href="#"> <a href="#">카탈로그 및 상세 정보</a></a> |

| Part no. | Order code | Name                    | Links                                                       |
|----------|------------|-------------------------|-------------------------------------------------------------|
| 184588   | HAB-1/2    | Manual override for HGL | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 184586   | HAB-1/4    | Manual override for HGL | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 184585   | HAB-1/8    | Manual override for HGL | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 184587   | HAB-3/8    | Manual override for HGL | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |

### 3.4.7. VBNF Non-return valves and quick exhaust valves

| Name                            | Order code | Remarks                                                                                                                                 | Picture                                                                            | Links                                                                                                                                                                                                                                                                              |
|---------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Non-return valves VBNF, piloted | VBNF-...   | Port G1/8, G1/4<br>Push-in connector 6, 8 mm<br>Flow rate 260 l/min<br>Low height<br>Can be rotated horizontally by 360° when assembled |  | <a href="#">UK</a> <a href="#">Catalogue</a><br><a href="#">UK</a> <a href="#">Documentation</a><br><a href="#">CN</a> <a href="#">电子目录</a><br><a href="#">CN</a> <a href="#">文档</a><br><a href="#">KR</a> <a href="#">카탈로그</a><br><a href="#">KR</a> <a href="#">카탈로그 및 상세 정보</a> |

| Part no. | Order code      | Name             | Links                                                       |
|----------|-----------------|------------------|-------------------------------------------------------------|
| 1927027  | VBNF-LBA-G14-Q8 | non-return valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8001460  | VBNF-LBA-G18-Q6 | non-return valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |

### 3.4.8. H Non-return valves and quick exhaust valves

| Name                | Order code | Remarks                                                                                                                                                 | Picture                                                                              | Links                                                                                                                                                                                                                                                                              |
|---------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Non-return valves H | H-...      | Connection: M5, G1/8, G1/4, G3/8, G1/2, G3/4<br>Push-in connector: 2, 4, 6, 8, 10, 12 mm<br>Flow rate: 115 ... 2230 l/min<br>Shut-off valve<br>Screw-in |  | <a href="#">UK</a> <a href="#">Catalogue</a><br><a href="#">UK</a> <a href="#">Documentation</a><br><a href="#">CN</a> <a href="#">电子目录</a><br><a href="#">CN</a> <a href="#">文档</a><br><a href="#">KR</a> <a href="#">카탈로그</a><br><a href="#">KR</a> <a href="#">카탈로그 및 상세 정보</a> |

| Part no. | Order code | Name             | Links                                                       |
|----------|------------|------------------|-------------------------------------------------------------|
| 3324     | H-1/8-A/I  | non-return valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 11689    | H-1/4-B    | non-return valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 11691    | H-1/2-B    | non-return valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 11692    | H-3/4-B    | non-return valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 11690    | H-3/8-B    | non-return valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |

### 3.4.9. SE / SEU Non-return valves and quick exhaust valves

| Name                         | Order code        | Remarks                                                                                     | Picture                                                                              | Links                                                                                                                                                                                                                                                                              |
|------------------------------|-------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Quick exhaust valves SE, SEU | SE-...<br>SEU-... | Connection G 1/8, G 1/4, G 3/8, G 1/2. G 3/4<br>Flow 300 ... 6 480 l/min<br>Shut-off valve. |  | <a href="#">UK</a> <a href="#">Catalogue</a><br><a href="#">UK</a> <a href="#">Documentation</a><br><a href="#">CN</a> <a href="#">电子目录</a><br><a href="#">CN</a> <a href="#">文档</a><br><a href="#">KR</a> <a href="#">카탈로그</a><br><a href="#">KR</a> <a href="#">카탈로그 및 상세 정보</a> |

| Part no. | Order code | Name                | Links                                                        |
|----------|------------|---------------------|--------------------------------------------------------------|
| 9688     | SE-1/2-B   | quick exhaust valve | <a href="#">Icon</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 9686     | SE-1/4-B   | quick exhaust valve | <a href="#">Icon</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 9685     | SE-1/8-B   | quick exhaust valve | <a href="#">Icon</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 2280     | SE-3/4     | quick exhaust valve | <a href="#">Icon</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 9687     | SE-3/8-B   | quick exhaust valve | <a href="#">Icon</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 6822     | SEU-1/2    | quick exhaust valve | <a href="#">Icon</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 6753     | SEU-1/4    | quick exhaust valve | <a href="#">Icon</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 4616     | SEU-1/8    | quick exhaust valve | <a href="#">Icon</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 6755     | SEU-3/8    | quick exhaust valve | <a href="#">Icon</a> <a href="#">PDF</a> <a href="#">CAD</a> |

### 3.4.10. GRxA / GRxZ One-way flow control valves

| Name       | Order code                        | Remarks                                                                                                                                                                                      | Picture                                                                            | Links                                                                                                                                                                                                                                                                  |
|------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GRxA, GRxZ | GRLA-...<br>GRLSA-...<br>GRLZ-... | Connection M3, M5, G1/8, G1/4, G3/8, G1/2, G3/4, also available with NPT thread<br>Push-in connection 3, 4, 6, 8, 10, 12 mm<br>Flow rate 0 ... 4320 l/min.<br>Non-return/flow control valve. |  | <a href="#"> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">文档</a></a><br><a href="#"> <a href="#">카탈로그</a></a><br><a href="#"> <a href="#">카탈로그 및 상세 정보</a></a> |

| Part no. | Order code           | Name                                     | Links                                                        |
|----------|----------------------|------------------------------------------|--------------------------------------------------------------|
| 151179   | GRLA-1/2-B           | one-way flow control valve               | <a href="#">Icon</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 151172   | GRLA-1/4-B           | one-way flow control valve               | <a href="#">Icon</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 151165   | GRLA-1/8-B           | one-way flow control valve               | <a href="#">Icon</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 151180   | GRLA-3/4-B           | one-way flow control valve               | <a href="#">Icon</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 151178   | GRLA-3/8-B           | one-way flow control valve               | <a href="#">Icon</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 151160   | GRLA-M5-B            | one-way flow control valve               | <a href="#">Icon</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 539717   | GRLA-M5-B-SA-218543  | One-way flow control valve, tamper-proof |                                                              |
| 539661   | GRLA-1/8-B-SA-218537 | One-way flow control valve, tamper-proof |                                                              |
| 539662   | GRLA-1/4-B-SA-218536 | One-way flow control valve, tamper-proof |                                                              |
| 539715   | GRLA-3/8-B-SA-218541 | One-way flow control valve, tamper-proof |                                                              |
| 539716   | GRLA-1/2-B-SA-218540 | One-way flow control valve, tamper-proof |                                                              |
| 539714   | GRLA-3/4-B-SA-218542 | One-way flow control valve, tamper-proof |                                                              |
| 151195   | GRLZ-1/4-B           | one-way flow control valve               | <a href="#">Icon</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 151188   | GRLZ-1/8-B           | one-way flow control valve               | <a href="#">Icon</a> <a href="#">PDF</a> <a href="#">CAD</a> |

### 3.4.11. GR / GRA One-way flow control valves

| Name                    | Order code        | Remarks                                                                                                                                            | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| In-line installation GR | GR-...<br>GRA-... | Connection M3, M5, G1/8, G1/4, G3/8, G1/2, G3/4<br>Push-in connector 3, 4, 6, 8 mm<br>Flow 0 ... 3 300 l/min<br>Non-return and flow control valve. |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code | Name                       | Links                                                                                                                                                                                                                                                                       |
|----------|------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3720     | GR-1/2     | one-way flow control valve | <a href="#">  </a> |
| 151215   | GR-1/8-B   | one-way flow control valve | <a href="#">  </a> |
| 2103     | GR-3/4     | one-way flow control valve | <a href="#">  </a> |
| 6308     | GR-3/8-B   | one-way flow control valve | <a href="#">  </a> |
| 6509     | GRA-1/4-B  | one-way flow control valve | <a href="#">  </a> |
| 151213   | GR-M5-B    | one-way flow control valve | <a href="#">  </a> |

### 3.4.12. GRE Flow control valves

| Name                                | Order code | Remarks                                                                                      | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------|------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Exhaust air flow control valves GRE | GRE-...    | Connector G 1/8, G 1/4, G 3/8, G 1/2, G 3/4<br>Flow 0 ... 8 000 l/min<br>Flow control valve. |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code | Name                           | Links                                                                                                                                                                                                                                                                             |
|----------|------------|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10351    | GRE-1/8    | exhaust air flow control valve | <a href="#">  </a> |

### 3.4.13. VEAB Proportional valves

| Name                                  | Order code | Remarks                                                                                                                                                                                                     | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Proportional pressure regulators VEAB | VEAB-...   | QS4 connection or connecting plate<br>Flow rate 20 l/min<br>3-way proportional pressure regulators, directly actuated<br>Pressure ranges -1 ... 0 bar, 0 ... 0.2 bar, 0 ... 1 bar, 0 ... 2 bar, 0 ... 6 bar |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code              | Name                            | Links                                                                                                                                                                                                                                                                             |
|----------|-------------------------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8067678  | VEAB-L-26-D13-Q4-A4-1R1 | proportional pressure regulator | <a href="#">  </a> |
| 8046306  | VEAB-L-26-D2-Q4-A4-1R1  | proportional pressure regulator | <a href="#">  </a> |
| 8046300  | VEAB-L-26-D9-Q4-A4-1R1  | proportional pressure regulator | <a href="#">  </a> |

### 3.4.14. VPPE Proportional valves

| Name                                  | Order code | Remarks                                                                                                                     | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Proportional-pressure regulators VPPE | VPPE-...   | Connection G1/8<br>Flow rate 850 l/min.<br>3-way proportional pressure regulators<br>Setpoint module available as accessory |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code                 | Name                            | Links |
|----------|----------------------------|---------------------------------|-------|
| 8156423  | VPPE-3-1-1/8-6-420-E1-F1A  | proportional pressure regulator |       |
| 8156424  | VPPE-3-1-1/8-10-420-E1-F1A | proportional pressure regulator |       |

### 3.4.15. OS (OR) Logic elements OR building blocks

| Name       | Order code | Remarks                                                   | Picture                                                                             | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------|------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OR gate OS | OS-...     | Flow rate 100 ... 5000 l/min<br>G1/8, G1/4<br>OR function |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code | Name    | Links                                                                                                                                                                                                                                                                             |
|----------|------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6682     | OS-1/4-B   | OR gate | <a href="#">  </a> |
| 6681     | OS-1/8-B   | OR gate | <a href="#">  </a> |

### 3.4.16. ZK (AND) Logic elements AND building blocks

| Name        | Order code | Remarks                                     | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------|------------|---------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AND gate ZK | ZK-1/8-B   | Flow rate 550 l/min<br>G1/8<br>AND function |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code | Name     | Links                                                                                                                                                                                                                                                                             |
|----------|------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6680     | ZK-1/8-B   | AND gate | <a href="#">  </a> |

## 3.5 Valve terminals

### 3.5.1. VTUG Universal valve terminals

For application where less than 6 valves are required, single valves/valve battery with socket connection and M8 connector can be used

| Name                                                          | Order code | Remarks                                                                                                                                                                                                                                                                                       | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manifold assembly VTUG, with individual electrical connection | VTUG-...   | Flow rate: 130 ... 1380 l/min<br>Width 10, 14 mm<br>Port M7, G 1/8<br>Push-in connector 3, 4, 6, 8 mm<br>Electrical individual connection<br>Voltage 5, 12, 24 V DC<br>Pressure -0.9 ... 10 bar<br>Degree of protection IP40/IP65<br>Semi in-line and sub-base valves<br>Metal terminal strip |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no.   | Order code | Name                    | Links                                                                                                                                                                                                                                                                                                       |
|------------|------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 572230 (*) | VTUG-S     | valve manifold assembly | <a href="#"></a> <a href="#"></a> <a href="#"></a> |

(\*) It is a configurable product.

Identcode :

**VTUG**      **-SR8-B1HZ**   -      -      -      **S-**      **-F1A**  
 -      [ 1 ]      [ 2 ]      [ 3 ]      [ 4 ]      [ 5 ]

|       |                            |                                                                                                                                                                                                                                                                          |
|-------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [ 1 ] | Size                       | 10 (Size 10)<br>14 (Size 14)<br>18 (Size 18)                                                                                                                                                                                                                             |
| [ 2 ] | Pressure supply connection | G18 (Size 10)<br>G14 (Size 14)<br>G38 (Size 18)                                                                                                                                                                                                                          |
| [ 3 ] | Exhaust port               | DQ (Push-in fitting)<br>DT (Thread)<br>UC (Silencer)                                                                                                                                                                                                                     |
| [ 4 ] | Valve connection           | M7 (Size 10)<br>G18 (Size 14)<br>G14 (Size 18)                                                                                                                                                                                                                           |
| [ 5 ] | Valve Position function    | A (5/2-way valve, single solenoid, mechanical spring)<br>J (5/2-way valve, double solenoid)<br>B (5/3-way valve, mid-position pressurised)<br>E (5/3-way valve, mid-position exhausted)<br>VK (2x3/2-way valve, normally closed, mechanical spring)<br>L Vacant position |

### 3.5.2. VTUG-F1A Universal valve terminals

for applications with 6 or more valves.

The VTUG without Control Air Switch valve is available with 6, 8, 10 and 12 valve positions

The VTUG with Control Air Switch valve is available with 6, 10 and 14 valve positions.

| Name                                             | Order code | Remarks | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------|------------|---------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Valve terminal VTUG-F1A with fieldbus connection | VTUG-...   |         |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code | Name           | Links                                                                                                                                                                                                                                                                       |
|----------|------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8143237  | VTUG-F1A   | valve terminal | <a href="#">  </a> |

Identcode :

**VTUG**      **-VRPT-B1HZ**   -      -      -      **S-**      **-F1A**  
 -      [ 1 ]      [ 2 ]      [ 3 ]      [ 4 ]      [ 5 ]

|       |                            |                                                                                                                                                                                                                                                                                                                                            |
|-------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [ 1 ] | Size                       | 10 (Size 10)<br>14 (Size 14)                                                                                                                                                                                                                                                                                                               |
| [ 2 ] | Pressure supply connection | G18 (Size 10)<br>G14 (Size 14)                                                                                                                                                                                                                                                                                                             |
| [ 3 ] | Exhaust port               | DQ (Push-in fitting)<br>DT (Thread)<br>UC (Silencer)                                                                                                                                                                                                                                                                                       |
| [ 4 ] | Valve connection           | M7 (Size 10)<br>G18 (Size 14)                                                                                                                                                                                                                                                                                                              |
| [ 5 ] | Valve Position function    | A (5/2-way valve, single solenoid, mechanical spring)<br>J (5/2-way valve, double solenoid)<br>B (5/3-way valve, mid-position pressurised)<br>E (5/3-way valve, mid-position exhausted)<br>VK (2x3/2-way valve, normally closed, mechanical spring)<br>L Vacant position<br>S Auxiliary pneumatic supply<br>ZH Control air switching valve |

### 3.5.3. CTEU Electrical peripherals

| Name                  | Order code | Remarks                                                                              | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------|------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fieldbus modules CTEU | CTEU-...   | Fieldbus module for valve module VTUG<br>Bus protocols:<br>- EtherCAT®<br>- PROFINET |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code | Name     | Links                                                                                                                                                                                                                                                                       |
|----------|------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 572556   | CTEU-EC    | bus node | <a href="#">  </a> |
| 2201471  | CTEU-PN    | bus node | <a href="#">  </a> |

## 3.6 Sensors

### 3.6.1. SMT-8M-A For T-slot

A query about the magnetic piston of the cylinder is not permitted. Exceptions must be justified technically or constructively and require the written consent of the client. Fixing the switches only with a reproducible position when changing is required.

| Name     | Order code | Remarks                                                                                            | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------|------------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SMT-8M-A | SMT-...    | Electronic PNP, NPN<br>Configurable<br>Electrical connection M8, M12,<br>ATEX 3GD<br>5 ... 30 V DC |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code                | Name             | Links                                                                                                                                                                                                                                                                             |
|----------|---------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 574337   | SMT-8M-A-PS-24V-E-0,3-M12 | proximity sensor | <a href="#">  </a> |
| 574334   | SMT-8M-A-PS-24V-E-0,3-M8D | proximity sensor | <a href="#">  </a> |

### 3.6.2. SDBT Proximity switches resistant to welding spatter, weld resistant, oil resistant

| Name                  | Order code | Remarks                                                                                                         | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------|------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Proximity switch SDBT | SDBT-...   | Voltage 10 ... 30 V DC<br>Cable length 0.3 and 5 m<br>Plug connection M12<br>Electrical<br>Contactless PNP, NPN |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code                 | Name             | Links                                                                                                                                                                                                                                                                             |
|----------|----------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2476855  | SDBT-BSW-1L-PU-W-0.3-N-M12 | proximity sensor | <a href="#">  </a> |

### 3.6.3. SMBR Mounting components for sensors

| Name                                                   | Order code                              | Remarks                                                            | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------|-----------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mounting components for proximity switches and sensors | SMBR-...<br><br>For round cylinder DSNU | Mounting kits for proximity sensors and sensors on various drives. |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code | Name         | Links                                                                                                                                                                                                                                                                       |
|----------|------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 175092   | SMBR-8-10  | mounting kit | <a href="#">  </a> |
| 175093   | SMBR-8-12  | mounting kit | <a href="#">  </a> |
| 175094   | SMBR-8-16  | mounting kit | <a href="#">  </a> |
| 175095   | SMBR-8-20  | mounting kit | <a href="#">  </a> |
| 175096   | SMBR-8-25  | mounting kit | <a href="#">  </a> |

### 3.6.4. SAMH Tamper-proof mounting of proximity switches

| Name                                                                | Order code | Remarks                                                            | Picture                                                                             | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------|------------|--------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tamper-proof mounting components for proximity switches and sensors | SAMH-...   | Mounting kits for proximity sensors and sensors on various drives. |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part number | Type           | Name         | Links                                                                                                                                                                                                                                                                             |
|-------------|----------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 575815      | SAMH-S-N8-S-MK | mounting kit | <a href="#">  </a> |
| 575817      | SAMH-S-N8-S-SC | cover        | <a href="#">  </a> |

### 3.6.5. SMM Positioning elements

| Name                 | Order code | Remarks                                                                                                                     | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------|------------|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Positioning elements | SMM-...    | Comprehensive accessories for every application.<br>- Mounting kits<br>- Sensor holder<br>- Clips<br>- Positioning elements |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code | Name                  | Links                                                                                                 |
|----------|------------|-----------------------|-------------------------------------------------------------------------------------------------------|
| 547941   | SMM-8      | positioning component | <a href="#"></a> |

### 3.6.6. SPAU Pressure sensors

| Name                  | Order code | Remarks                                                                                                                                                                                                                                                                                                    | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pressure sensors SPAU | SPAU-...   | Pressure measuring range -1 to 16 bar<br>Voltage 20 ...30 V DC<br>Switching output 2x PNP or 2x NPN selectable<br>Electrical output 0.1 ... 10 V, 1 ... 5 V, 4 ... 20 mA<br>Pneumatic connection G1/8, R1/8, R1/4, NPT1/8, M5, M7, push-in connector 4 mm, 6 mm, 5/32"<br>Pressure switch<br>Vacuum switch |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no.    | Order code                          | Name            | Links                                                                                                                                                                                                                                                                       |
|-------------|-------------------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8001200 (*) | SPAU-B11R-T-G18FD-L-PNLK-PNVBA-M12U | pressure sensor | <a href="#">  </a> |

(\*) It is a configurable product.

## 3.7 Safety oriented pneumatics

### 3.7.1. Safety oriented valves

### 3.7.2. VOFA Application-specific directional control valves

| Name                | Order code | Remarks                                                                                                                  | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------|------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Control blocks VOFA | VOFA-...   | Soft-start valve<br>5/2-way valve with switching position sensing, redundant<br>Flow rate 1100 l/min<br>Voltage: 24 V DC |  | <a href="#">  Catalogue0</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code                  | Name          | Links                                                                                                                                                                                                                                                                             |
|----------|-----------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 574011   | VOFA-L26-T32C-M-G14-1C1-APP | control block | <a href="#">  </a> |
| 569819   | VOFA-L26-T52-M-G14-1C1-APP  | control block | <a href="#">  </a> |

### 3.7.3. VL Stop valve

| Name       | Order code | Remarks | Picture                                                                              | Links |
|------------|------------|---------|--------------------------------------------------------------------------------------|-------|
| Stop valve | VL         |         |  |       |

| Part no. | Order code  | Name       | Links                     |
|----------|-------------|------------|---------------------------|
| 25025    | VL-2-1/4-SA | Stop valve | <a href="#">Datasheet</a> |

### 3.7.4. Safe components for air treatment

### 3.7.5. MS6-SV soft-start/quick exhaust valve

| Name   | Type                                                               | Comment                                                                                                                                                                                                                                                                                                             | Picture                                                                            | Documentation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MS6-SV | MS6-...<br><br>For an extension to PLe, please consult with Festo. | Size 6<br>Connection G1/2, also available with NPT thread<br>Pressure 3.5 ... 10 bar<br>Flow rate 4300 l/min<br>Voltage 24 V DC<br>Actuation solenoid actuated<br>Pressure gauge with bar, psi, MPa<br>3/2-way valve Normally closed<br>Silencer<br>Flow direction<br>- from left to right<br>- from right to left. |  |  <a href="#">Catalogue</a><br> <a href="#">Documentation</a><br> <a href="#">电子目录</a><br> <a href="#">文档</a><br> <a href="#">카타로그</a><br> <a href="#">카탈로그 및 상세 정보</a> |

| Part no.   | Order code                  | Name                           | Links                                                       |
|------------|-----------------------------|--------------------------------|-------------------------------------------------------------|
| 548713 (*) | MS6-SV-1/2-D-10V24P-2M12-SO | soft-start/quick exhaust valve | <a href="#">PDF</a> <a href="#">PDF</a> <a href="#">PDF</a> |

(\*) It is a configurable product.

## 3.8 Compressed air preparation

### 3.8.1. MSx-EE On-off valves, electrical operated

| Name                 | Order code          | Remarks                                                               | Picture                                                                               | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------|---------------------|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On-off valve MS4-EE  | MS4-EE-1/4-10V24P-S | Connection G1/8, G1/4, G3/8<br>Flow rate 1000 ... 2000 l/min.         |  |  <a href="#">Catalogue</a><br> <a href="#">Documentation</a><br> <a href="#">电子目录</a><br> <a href="#">文档</a><br> <a href="#">카타로그</a><br> <a href="#">카탈로그 및 상세 정보</a> |
| On-off valve MS6-EE  | MS6-EE-1/2-10V24P-S | Connection G1/4, G3/8, G1/2, G3/4<br>Flow rate 2600 ... 7000 l/min.   |  |  <a href="#">Catalogue</a><br> <a href="#">Documentation</a><br> <a href="#">电子目录</a><br> <a href="#">文档</a><br> <a href="#">카타로그</a><br> <a href="#">카탈로그 및 상세 정보</a> |
| On-off valve MS12-EE | MS12-EE-G-V24P-S    | Connection G1, G1 1/4, G1 1/2, G2<br>Flow rate 25000 ... 32000 l/min. |   |  <a href="#">Catalogue</a><br> <a href="#">Documentation</a><br> <a href="#">电子目录</a><br> <a href="#">文档</a><br> <a href="#">카타로그</a><br> <a href="#">카탈로그 및 상세 정보</a> |

| Part no. | Order code          | Name                       | Links                                                       |
|----------|---------------------|----------------------------|-------------------------------------------------------------|
| 527709   | MS4-EE-1/4-10V24P-S | On-off valve with silencer | <a href="#">DK1</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 527682   | MS6-EE-1/2-10V24P-S | On-off valve with silencer | <a href="#">DK1</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 535032   | MS12-EE-G-V24P-S    | On-off valve with silencer | <a href="#">DK1</a> <a href="#">PDF</a> <a href="#">CRD</a> |

### 3.8.2. MSx-EE On-off valves, manual operated

| Name                 | Order code    | Remarks                                                                     | Picture                                                                              | Links                                                                                                                                                                                                                                                                  |
|----------------------|---------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On-off valve MS4-EM  | MS4-EM1-1/4-S | Connection G1/8, G1/4, G3/8<br>Flow rate 1200 ... 2200 l/min.               |    | <a href="#"> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">文档</a></a><br><a href="#"> <a href="#">카탈로그</a></a><br><a href="#"> <a href="#">카탈로그 및 상세 정보</a></a> |
| On-off valve MS6-EM  | MS6-EM1-1/2-S | Connection G1/4, G3/8, G1/2, G3/4<br>Flow rate 3000 ... 8700 l/min.         |    | <a href="#"> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">文档</a></a><br><a href="#"> <a href="#">카탈로그</a></a><br><a href="#"> <a href="#">카탈로그 및 상세 정보</a></a> |
| On-off valve MS9-EM  | MS9-EM-G-S-VS | Connection G1/2, G3/4, G1, G1 1/4, G1 1/2<br>Flow rate 8000 ... 18000 l/min |   | <a href="#"> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">文档</a></a><br><a href="#"> <a href="#">카탈로그</a></a><br><a href="#"> <a href="#">카탈로그 및 상세 정보</a></a> |
| On-off valve MS12-EM | MS12-EM-G-S   | Connection G1, G1 1/4, G1 1/2, G2<br>Flow rate 25000 ... 32000 l/min.       |  | <a href="#"> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">文档</a></a><br><a href="#"> <a href="#">카탈로그</a></a><br><a href="#"> <a href="#">카탈로그 및 상세 정보</a></a> |

| Part no. | Order code    | Name                       | Links                                                       |
|----------|---------------|----------------------------|-------------------------------------------------------------|
| 541259   | MS4-EM1-1/4-S | On-off valve with silencer | <a href="#">DK1</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 541268   | MS6-EM1-1/2-S | On-off valve with silencer | <a href="#">DK1</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 562952   | MS9-EM-G-S-VS | On-off valve with silencer | <a href="#">DK1</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 535031   | MS12-EM-G-S   | On-off valve with silencer | <a href="#">DK1</a> <a href="#">PDF</a> <a href="#">CRD</a> |

### 3.8.3. MSx-EE- -EP On-off valves, pneumatic operated

| Name                      | Order code   | Remarks                   | Picture                                                                             | Links |
|---------------------------|--------------|---------------------------|-------------------------------------------------------------------------------------|-------|
| On-off valve MS...-EP-... | MS...-EP-... | Connection G1/4, G1/2, G1 |  |       |

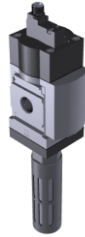
| Part no. | Order code          | Name                       | Links                     |
|----------|---------------------|----------------------------|---------------------------|
| 8028520  | MS4-EE-1/4-EP-CS    | On-off valve               | <a href="#">Datasheet</a> |
| 3075309  | MS6-EE-1/2-EP-CS    | On-off valve               | <a href="#">Datasheet</a> |
| 2677260  | MS9-EE-G-EP-S-VS-CS | On-off valve with silencer | <a href="#">Datasheet</a> |

### 3.8.4. MSx-DL Pressure build-up valve

| Name                            | Order code | Remarks                                                      | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------|------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pressure build-up valve MS4-DL  | MS4-DL-1/4 | Connection G1/4<br>Flow rate 1000 ... 2000 l/min.            |    | <a href="#">  <a href="#">Catalogue</a></a><br><a href="#">  <a href="#">Documentation</a></a><br><a href="#">  <a href="#">电子目录</a></a><br><a href="#">  <a href="#">文档</a></a><br><a href="#">  <a href="#">카타로그</a></a><br><a href="#">  <a href="#">카탈로그 및 상세 정보</a></a>                   |
| Pressure build-up valve MS6-DL  | MS6-...    | Port G1/4, G3/8, G1/2, G3/4<br>Flow rate 2800 ... 6450 l/min |  | <a href="#">  <a href="#">Catalogue</a></a><br><a href="#">  <a href="#">Documentation</a></a><br><a href="#">  <a href="#">电子目录</a></a><br><a href="#">  <a href="#">文档</a></a><br><a href="#">  <a href="#">카타로그</a></a><br><a href="#">  <a href="#">카탈로그 및 상세 정보</a></a> |
| Pressure build-up valve MS12-DL | MS12-DL-G  | Connection G2<br>Flow rate 25000 ... 42000 l/min.            |  | <a href="#">  <a href="#">Catalogue</a></a><br><a href="#">  <a href="#">Documentation</a></a><br><a href="#">  <a href="#">电子目录</a></a><br><a href="#">  <a href="#">文档</a></a><br><a href="#">  <a href="#">카타로그</a></a><br><a href="#">  <a href="#">카탈로그 및 상세 정보</a></a> |

| Part no. | Order code | Name                    | Links                                                                                                                                                                                                                                                                             |
|----------|------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 529531   | MS4-DL-1/4 | Pressure build-up valve | <a href="#">  </a> |
| 529817   | MS6-DL-1/2 | Pressure build-up valve | <a href="#">  </a> |
| 541497   | MS12-DL-G  | Pressure build-up valve | <a href="#">  </a> |

### 3.8.5. MSx-SV Pressure build-up and venting valves

| Name                                       | Order code             | Remarks                                                                                                                                                                                                                                    | Picture                                                                             | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pressure build-up and venting valve MS6-SV | MS6-SV-1/2-C-10V24E-S  | Size 6<br>Connection G1/2<br>Pressure 3,5 - 10 bar<br>Flow rate 4300 l/min<br>Voltage 24 V DC<br>Electric operated<br>3/2-Directional control valve, Initial position closed<br>Performance Level C, Category 1, 1-Canal by EN ISO 13849-1 |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카타로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |
| Pressure build-up and venting valve MS9-SV | MS9-SV-G-C-10V24P-S-VS | Size 9<br>Connection G1<br>Pressure 3,5 - 16 bar<br>Flow rate 16000 l/min<br>Voltage 24 V DC<br>Electric operated<br>3/2-Directional control valve, Initial position closed<br>Performance Level C, Category 1, 1-Canal by EN ISO 13849-1  |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카타로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code             | Name                                              | Links |
|----------|------------------------|---------------------------------------------------|-------|
| 609307   | MS6-SV-1/2-C-10V24E-S  | Pressure build-up and venting valve with silencer |       |
| 562176   | MS9-SV-G-C-10V24P-S-VS | Pressure build-up and venting valve with silencer |       |

### 3.8.6. MSx-FRM Branching module

| Name                           | Order code                     | Remarks                                                         | Picture                                                                                                                                                                      | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------|--------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Branching module MS...-FRM-... | MS...-FRM-...<br>MS...-FRM-FRZ | Connection G1/4, G1/2, G1, G2<br>Flow rate 3200 ... 42000 l/min | <br> | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카타로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code   | Name                   | Links                                                                                                                                                                                                                                                                             |
|----------|--------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 529555   | MS4-FRM-1/4  | Branching module       | <a href="#">  </a> |
| 529857   | MS6-FRM-1/4  | Branching module       | <a href="#">  </a> |
| 529853   | MS6-FRM-1/2  | Branching module       | <a href="#">  </a> |
| 564145   | MS9-FRM-G-VS | Branching module       | <a href="#">  </a> |
| 541681   | MS12-FRM-G   | Branching module       | <a href="#">  </a> |
| 549336   | MS4-FRM-FRZ  | Branching module, slim | <a href="#">  </a> |
| 549337   | MS6-FRM-FRZ  | Branching module, slim | <a href="#">  </a> |

### 3.8.7. MSx-LFx Filters and filter control valves

| Name                                 | Order code                    | Remarks                                                                                                                | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Filter-regulating valve<br>MS...-LFR | MS...-LFR-...                 | Connection G1/4, G1/2, G1 and G2<br>Flow rate 850 ... 17000 l/min.<br>Filtration 5µm and 40µm                          |   | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카타로그</a><br><a href="#">  카탈로그 및 상세 정보</a>                         |
| Fine- and Micro filter<br>MS...-LFM  | MS...-LFM-...                 | Connection G1/4, G1/2<br>Flow rate 380 ... 550 l/min<br>Operating pressure 2 ... 12 bar<br>Filtration 0,01 µm, 1 µm    |   | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카타로그</a><br><a href="#">  카탈로그 및 상세 정보</a>                         |
| Activated carbon filter<br>MS...-LFX | MS...-LFX-...                 | Connection G1/4, G1/2<br>Flow rate 700 l/min.<br>Operating pressure 0 ... 20 bar<br>Residual oil content ≤ 0,003 mg/m³ |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카타로그</a><br><a href="#">  카탈로그 및 상세 정보</a>                   |
| Filter cartridges MS                 | MS4-...<br>MS6-...<br>MS9-... | Size 4, 6, 9<br>Grade of filtration<br>- 40µm<br>- 5µm<br>- 1µm<br>- 0.01µm<br>- Activated carbon filter               |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카타로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no.   | Order code                   | Name                           | Links                                                                                                                                                                                                                                                             |
|------------|------------------------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 526489 (*) | MS4-LFR-1/4-D7-E-R-M-A4-AS   | Filter-regulating valve, 40 µm |    |
| 526490 (*) | MS6-LFR-1/2-D7-E-R-M-A4-AS   | Filter-regulating valve, 40 µm |    |
| 562531 (*) | MS9-LFR-G-D7-E-U-M-A4-AS     | Filter-regulating valve, 40 µm |    |
| 535022 (*) | MS12-LFR-G-D7-E-U-M-A4-LD-AS | Filter-regulating valve, 40 µm |    |
| 526489 (*) | MS4-LFR-1/4-D7-C-R-M-A4-AS   | Filter-regulating valve, 5 µm  |    |
| 526490 (*) | MS6-LFR-1/2-D7-C-R-M-A4-AS   | Filter-regulating valve, 5 µm  |    |
| 562531 (*) | MS9-LFR-G-D7-C-U-M-A4-AS     | Filter-regulating valve, 5 µm  |    |
| 535022 (*) | MS12-LFR-G-D7-C-U-M-A4-LD-AS | Filter-regulating valve, 5 µm  |    |
| 529663     | MS6-LFM-1/4-ARM              | Micro filter, 0,01 µm          |    |
| 529667     | MS6-LFM-1/4-BRM              | Fine filter, 1 µm              |    |
| 529655     | MS6-LFM-1/2-ARM              | Micro filter, 0,01 µm          |    |
| 529659     | MS6-LFM-1/2-BRM              | Fine filter, 1 µm              |    |
| 529683     | MS6-LFX-1/4-R                | Activated carbon filter        |    |
| 529679     | MS6-LFX-1/2-R                | Activated carbon filter        |    |
| 534501     | MS4-LFP-C                    | Filter cartridge, 5 µm         |    |
| 534502     | MS4-LFP-E                    | Filter cartridge, 40 µm        |    |
| 532909     | MS6-LFM-A                    | Micro filter cartridge         |    |
| 532910     | MS6-LFM-B                    | Micro filter cartridge         |    |
| 534499     | MS6-LFP-C                    | Filter cartridge, 5 µm         |    |

| Part no. | Order code | Name                              | Links                                                        |
|----------|------------|-----------------------------------|--------------------------------------------------------------|
| 534500   | MS6-LFP-E  | Filter cartridge, 40 µm           | <a href="#">rDKI</a> <a href="#">PDF</a> <a href="#">CRG</a> |
| 532911   | MS6-LFX    | Activated carbon filter cartridge | <a href="#">rDKI</a> <a href="#">PDF</a> <a href="#">CRG</a> |
| 570309   | MS9-LFP-C  | Filter cartridge, 5 µm            | <a href="#">rDKI</a> <a href="#">PDF</a> <a href="#">CRG</a> |
| 570310   | MS9-LFP-E  | Filter cartridge, 40 µm           | <a href="#">rDKI</a> <a href="#">PDF</a> <a href="#">CRG</a> |

(\*) It is a configurable product.

### 3.8.8. MSx-LRx Pressure regulating valves

| Name                                        | Order code           | Remarks                                                                                                                                                                                                                                                                                                                                                | Picture                                                                               | Links                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pressure regulating valve MS...-LR          | MS...-LR-...         | Connection G1/4, G1/2, G1 und G2<br>Flow rate 1000 ... 26500 l/min                                                                                                                                                                                                                                                                                     |    | <a href="#"> <a href="#">rDKI</a> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">PDF</a> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">rDKI</a> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">PDF</a> <a href="#">文档</a></a><br><a href="#"> <a href="#">rDKI</a> <a href="#">카타로그</a></a><br><a href="#"> <a href="#">PDF</a> <a href="#">카탈로그 및 상세 정보</a></a> |
| Precision pressure regulating valve MS6-LRP | MS6-LRP-1/4-D4-A8-AS | Connection G1/4<br>Flow rate 1100 l/min<br>Pressure control range 0,05 ... 2,5 bar                                                                                                                                                                                                                                                                     |   | <a href="#"> <a href="#">rDKI</a> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">PDF</a> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">rDKI</a> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">PDF</a> <a href="#">文档</a></a><br><a href="#"> <a href="#">rDKI</a> <a href="#">카타로그</a></a><br><a href="#"> <a href="#">PDF</a> <a href="#">카탈로그 및 상세 정보</a></a> |
| Precision pressure regulating valve LRP     | LRP-...              | Connection G1/4<br>Flow rate 800 ... 2300 l/min<br>Pressure 0,05 ... 0,7 bar, 0,05 ... 2,5 bar, 0,05 ... 4 bar<br>Max. pressure hysteresis 0,02 bar<br>Without manometer<br><br>LRP is also available in a version for "EU Explosion Protection Directive (ATEX)". The code is "EX4" in the Identcode. This must be approved by the general contractor |  | <a href="#"> <a href="#">rDKI</a> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">PDF</a> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">rDKI</a> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">PDF</a> <a href="#">文档</a></a><br><a href="#"> <a href="#">rDKI</a> <a href="#">카타로그</a></a><br><a href="#"> <a href="#">PDF</a> <a href="#">카탈로그 및 상세 정보</a></a> |

| Part no.   | Order code            | Name                                | Links                                                       |
|------------|-----------------------|-------------------------------------|-------------------------------------------------------------|
| 527690 (*) | MS4-LR-1/4-D7-A4-AS   | Pressure regulating valve           | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 527663 (*) | MS6-LR-1/2-D7-A4-AS   | Pressure regulating valve           | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 562530 (*) | MS9-LR-1-D7-A4-AS     | Pressure regulating valve           | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 535021 (*) | MS12-LR-G-D7-A4-LD-AS | Pressure regulating valve           | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 538028 (*) | MS6-LRP-1/4-D4-A8-AS  | Precision pressure regulating valve | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 159500     | LRP-1/4-0,7           | precision pressure regulator        | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 549918     | LRP-1/4-0,7-EX4       | precision pressure regulator        | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 162834     | LRP-1/4-2,5           | precision pressure regulator        | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 549919     | LRP-1/4-2,5-EX4       | precision pressure regulator        | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 159501     | LRP-1/4-4             | precision pressure regulator        | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 549920     | LRP-1/4-4-EX4         | precision pressure regulator        | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 194690     | LRPS-1/4-0,7          | precision pressure regulator        | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 194691     | LRPS-1/4-2,5          | precision pressure regulator        | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 194692     | LRPS-1/4-4            | precision pressure regulator        | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |

(\*) It is a configurable product.

### 3.8.9. MA- -RG Pressure measuring devices – Pressure gauge

| Name              | Order code | Remarks                                                                                                                                         | Picture                                                                             | Links                                                                                                                                                                                                                                                                  |
|-------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pressure gauge MA | MA-...-RG  | Connection G1/8, G1/4<br>Pressure 0...2,5 bar, 0 ... 10 bar, 0 ... 16 bar<br>Indicating range bar<br>DIN EN 837-1<br>Adjustable red green range |  | <a href="#"> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">文档</a></a><br><a href="#"> <a href="#">카타로그</a></a><br><a href="#"> <a href="#">카탈로그 및 상세 정보</a></a> |

| Part no. | Order code           | Name                             | Links                                                       |
|----------|----------------------|----------------------------------|-------------------------------------------------------------|
| 525725   | MA-40-10-R1/8-E-RG   | Pressure gauge                   | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 525726   | MA-40-16-R1/8-E-RG   | Pressure gauge                   | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 546963   | MA-40-2,5-R1/8-E-RG  | Pressure gauge                   | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 525728   | MA-50-10-R1/4-E-RG   | Pressure gauge                   | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 525729   | MA-50-16-R1/4-E-RG   | Pressure gauge                   | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 525727   | MA-50-2,5-R1/4-E-RG  | Pressure gauge                   | <a href="#">DKI</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 719963   | Red disc diameter 40 | Disc with adjustable red segment |                                                             |
| 719962   | Red disc diameter 50 | Disc with adjustable red segment |                                                             |

### 3.8.10. DPA Pressure amplifier

| Name                 | Order code | Remarks                                                                                                                                                                                                                                        | Picture                                                                              | Links                                                                                                                                                                                                                                                                  |
|----------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pressure booster DPA | DPA-...    | Twin-piston<br>Pressure booster<br>Pneumatic actuator 1:2<br>Pneumatic Connection<br>G1/4, G3/8, G1/2<br>Supply pressure 2 ... 10 bar<br>Output pressure 4 ... 16 bar<br>Flow rate 300 ... 3000 NI/min<br>Ambient temperature<br>+5 ... +60°C. |  | <a href="#"> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">文档</a></a><br><a href="#"> <a href="#">카타로그</a></a><br><a href="#"> <a href="#">카탈로그 및 상세 정보</a></a> |

| Part no. | Order code   | Name             | Links                                                       |
|----------|--------------|------------------|-------------------------------------------------------------|
| 549402   | DPA-100-16-A | Pressure booster | <a href="#">DK1</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 537274   | DPA-40-16    | Pressure booster | <a href="#">DK1</a> <a href="#">PDF</a> <a href="#">CAD</a> |
| 549400   | DPA-63-16-A  | Pressure booster | <a href="#">DK1</a> <a href="#">PDF</a> <a href="#">CAD</a> |

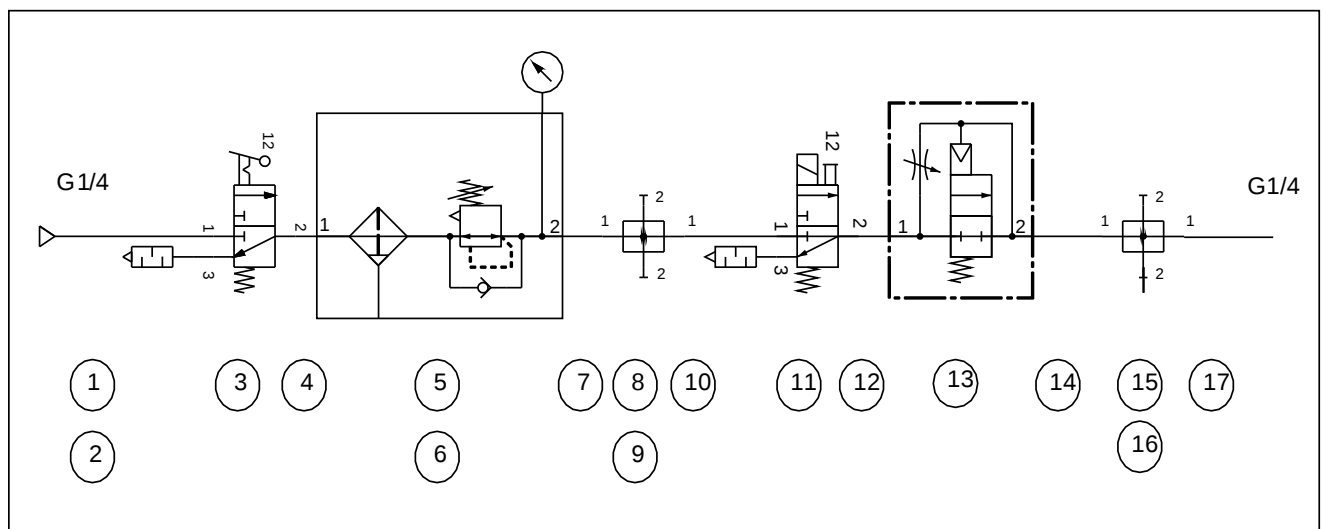
### 3.8.11. Standard service units according to VW Guideline

#### Service unit - Standard - G1/4"

Order number: **8043226**

[Download Pneumatic Drawing](#)

#### Structure:



#### Part list:

| Pos. | Piece | Name                                               | Type                       | Part number |
|------|-------|----------------------------------------------------|----------------------------|-------------|
| 1    | 1     | Connecting plate 1/4"                              | MS4-AGB                    | 526069      |
| 2    | 1     | Module connector                                   | MS4-MV                     | 532798      |
| 3    | 1     | On-off valve with silencer 6842 U-1/4-B            | MS4-EM1-1/4-S              | 541259      |
| 4    | 1     | Mounting bracket                                   | MS4-WP                     | 532184      |
| 5    | 1     | Filter regulator 40µm                              | MS4-LFR-1/4-D7-E-R-M-A4-AS | 526489      |
|      | 1     | Filter cartridge 40 µm (replacement)               | MS4-LFP-E                  | 534502      |
| 6    | 1     | Pressure gauge red/green                           | MA-50-16-R1/4-E-RG         | 525729      |
| 7    | 1     | Module connector                                   | MS4-MV                     | 532798      |
| 8    | 1     | Branching module                                   | MS4-FRM-1/4                | 529555      |
| 9    | 2     | Blanking plug                                      | B-1/4                      | 3569        |
| 10   | 1     | Module connector                                   | MS4-MV                     | 532798      |
| 11   | 1     | On-off valve electrical with silencer 6842 U-1/4-B | MS4-EE-1/4-10V24P-S        | 527709      |
| 12   | 1     | Module connector                                   | MS4-MV                     | 532798      |
| 13   | 1     | Soft-start valve                                   | MS4-DL-1/4                 | 529531      |
| 14   | 1     | Mounting bracket                                   | MS4-WP                     | 532184      |
| 15   | 1     | Branching module                                   | MS4-FRM-1/4                | 529555      |
| 16   | 2     | Blanking plug                                      | B-1/4                      | 3569        |
| 17   | 1     | Module connector                                   | MS4-MV                     | 532798      |

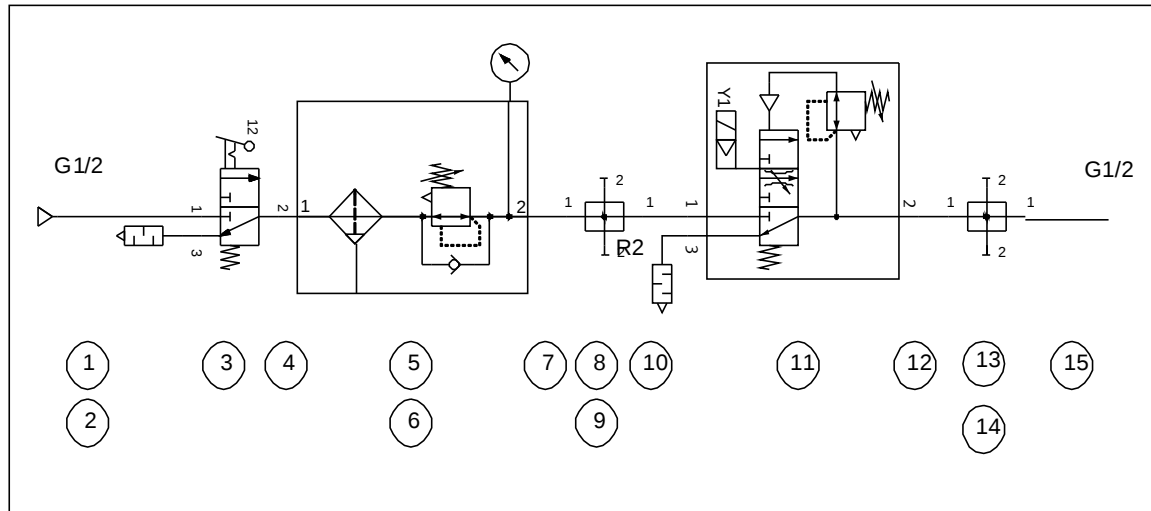
A pressure monitoring via a pressure switch is provided at the service unit. For this purpose, a released electronic pressure switch must be ordered separately. pressure switches see chapter 3.6.6 (SPAU-).

## Service unit - Standard - G1/2"

Order number: **8043221**

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### Structure:



### Part list:

| Pos. | Piece | Name                                                      | Type                       | Part number |
|------|-------|-----------------------------------------------------------|----------------------------|-------------|
| 1    | 1     | Connecting plate 1/2"                                     | MS6-AGD                    | 526082      |
| 2    | 1     | Module connector                                          | MS6-MV                     | 532799      |
| 3    | 1     | On-off valve with silencer 6844 U-1/2-B                   | MS6-EM1-1/2-S              | 541268      |
| 4    | 1     | Mounting bracket                                          | MS6-WP                     | 532195      |
| 5    | 1     | Filter regulator 40µm                                     | MS6-LFR-1/2-D7-E-R-M-A4-AS | 526490      |
|      | 1     | Filter cartridge 40 µm (replacement)                      | MS6-LFP-E                  | 534500      |
| 6    | 1     | Pressure gauge red/green                                  | MA-50-16-R1/4-E-RG         | 525729      |
| 7    | 1     | Module connector                                          | MS6-MV                     | 532799      |
| 8    | 1     | Branching module                                          | MS6-FRM-1/2                | 529853      |
| 9    | 2     | Blanking plug                                             | B-1/2                      | 3571        |
| 10   | 1     | Module connector                                          | MS6-MV                     | 532799      |
| 11   | 1     | Soft-start/quick exhaust valve with silencer 6845 U-3/4-B | MS6-SV-1/2-C-10V24E-S      | 609307      |
| 12   | 1     | Mounting bracket                                          | MS6-WP                     | 532195      |
| 13   | 1     | Branching module                                          | MS6-FRM-1/2                | 529853      |
| 14   | 2     | Blanking plug                                             | B-1/2                      | 3571        |
| 15   | 1     | Module connector                                          | MS6-MV                     | 532799      |

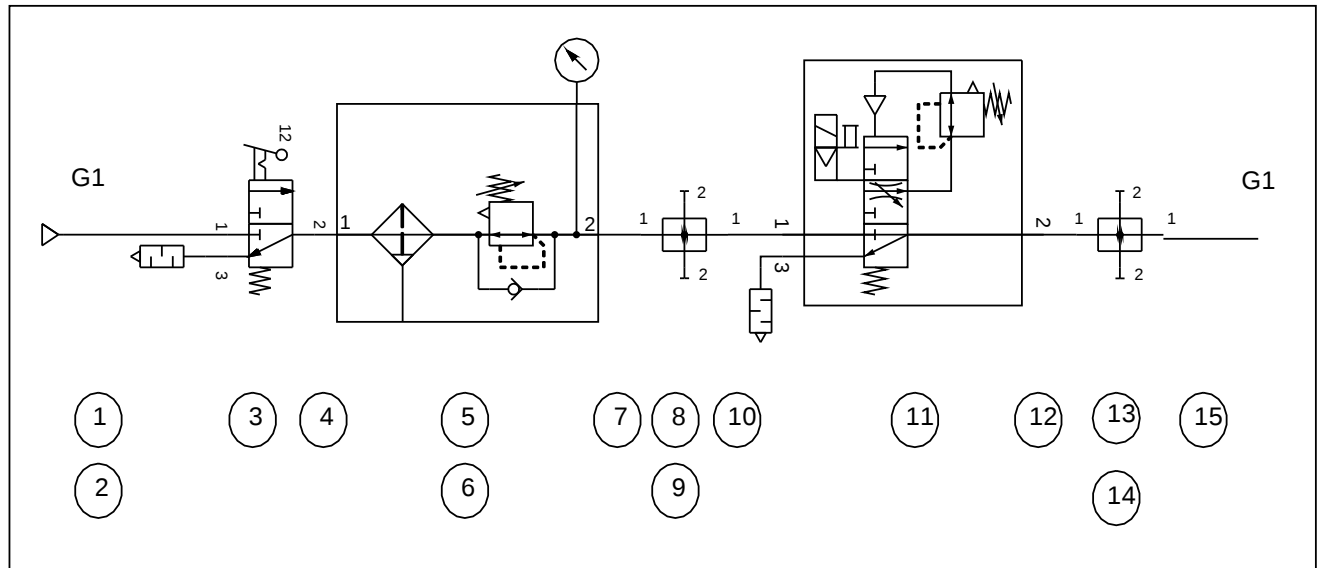
A pressure monitoring via a pressure switch is provided at the service unit. For this purpose, a released electronic pressure switch must be ordered separately. pressure switches see chapter 3.6.6 (SPAU-).

## Service unit - Standard - G1“

Order number: **8043222**

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### Structure:



### Part list:

| Pos. | Piece | Name                                                      | Type                     | Part number |
|------|-------|-----------------------------------------------------------|--------------------------|-------------|
| 1    | 1     | Connecting plate 1"                                       | MS9-AGF                  | 552956      |
| 2    | 1     | Module connector                                          | MS9-MV                   | 552950      |
| 3    | 1     | On-off valve with silencer 151990 U-1-B                   | MS9-EM-G-S-VS            | 562952      |
| 4    | 1     | Mounting bracket                                          | MS9-WP                   | 552947      |
| 5    | 1     | Filter regulator 40µm                                     | MS9-LFR-G-D7-E-U-M-A4-AS | 562531      |
|      | 1     | Filter cartridge 40 µm (replacement)                      | MS9-LFP-E                | 570310      |
| 6    | 1     | Pressure gauge red/green                                  | MA-50-16-R1/4-E-RG       | 525729      |
| 7    | 1     | Module connector                                          | MS9-MV                   | 552950      |
| 8    | 1     | Branching module                                          | MS9-FRM-G-VS             | 564145      |
| 9    | 2     | Blanking plug                                             | B-1                      | 5763        |
| 10   | 1     | Module connector                                          | MS9-MV                   | 552950      |
| 11   | 1     | Soft-start/quick exhaust valve with silencer 151990 U-1-B | MS9-SV-G-C-10V24P-S-VS   | 562176      |
| 12   | 1     | Mounting bracket                                          | MS9-WP                   | 552947      |
| 13   | 1     | Branching module                                          | MS9-FRM-G-VS             | 564145      |
| 14   | 2     | Blanking plug                                             | B-1                      | 5763        |
| 15   | 1     | Module connector                                          | MS9-MV                   | 552950      |

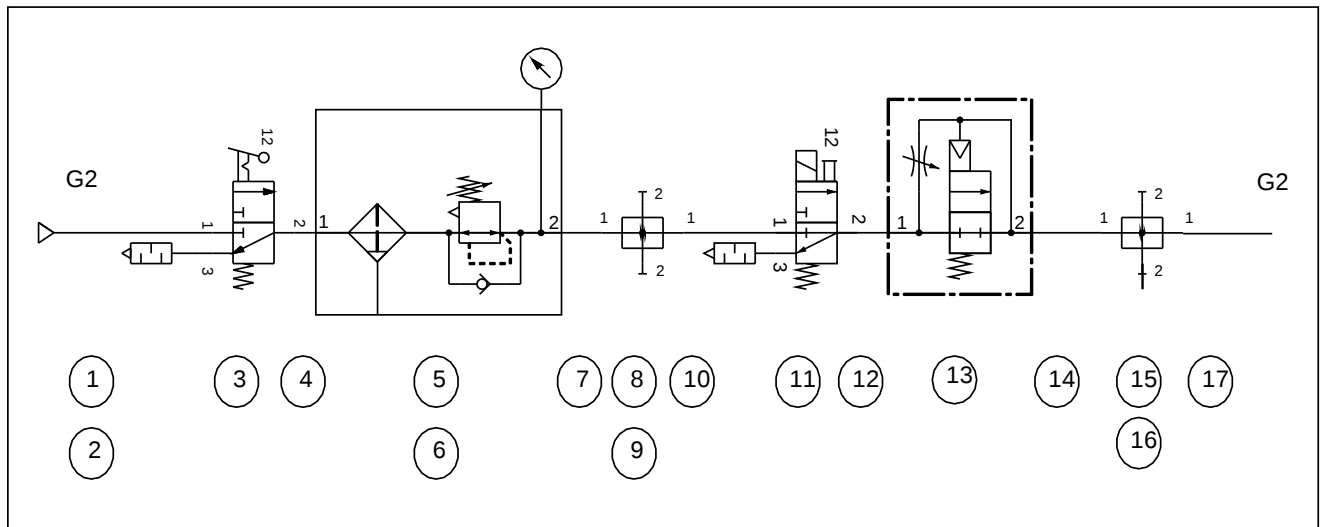
A pressure monitoring via a pressure switch is provided at the service unit. For this purpose, a released electronic pressure switch must be ordered separately. pressure switches see chapter 3.6.6 (SPAÜ-).

## Service unit - Standard - G2“

Order number: DE\_CS.1449353-A

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### Structure:



### Part list:

| Pos. | Piece | Name                                               | Type                         | Part number |
|------|-------|----------------------------------------------------|------------------------------|-------------|
| 1    | 1     | Connecting plate 2"                                | MS12-AGI                     | 537138      |
| 2    | 1     | Module connector                                   | MS12-MV                      | 537134      |
| 3    | 1     | On-off valve with silencer 151990 U-1-B            | MS12-EM-G-S                  | 535031      |
| 4    | 1     | Mounting bracket                                   | MS12-WP                      | 537133      |
| 5    | 1     | Filter regulator 40µm                              | MS12-LFR-G-D7-E-U-M-A4-LD-AS | 535022      |
|      | 1     | Filter cartridge 40 µm (replacement)               | MS12-LFP-E                   | 537144      |
| 6    | 1     | Pressure gauge red/green                           | MA-50-16-R1/4-E-RG           | 525729      |
| 7    | 1     | Module connector                                   | MS12-MV                      | 537134      |
| 8    | 1     | Branching module                                   | MS12-FRM-G                   | 541681      |
| 9    | 2     | Blanking plug                                      |                              |             |
| 10   | 1     | Module connector                                   | MS12-MV                      | 537134      |
| 11   | 1     | On-off valve electrical with silencer 151990 U-1-B | MS12-EE-G-V24P-S             | 535032      |
| 12   | 1     | Module connector                                   | MS12-MV                      | 537134      |
| 13   | 1     | Soft-start valve                                   | MS12-DL-G                    | 541497      |
| 14   | 1     | Mounting bracket                                   | MS12-WP                      | 537133      |
| 15   | 1     | Branching module                                   | MS12-FRM-G                   | 541681      |
| 16   | 2     | Blanking plug                                      |                              |             |
| 17   | 1     | Module connector                                   | MS12-MV                      | 537134      |

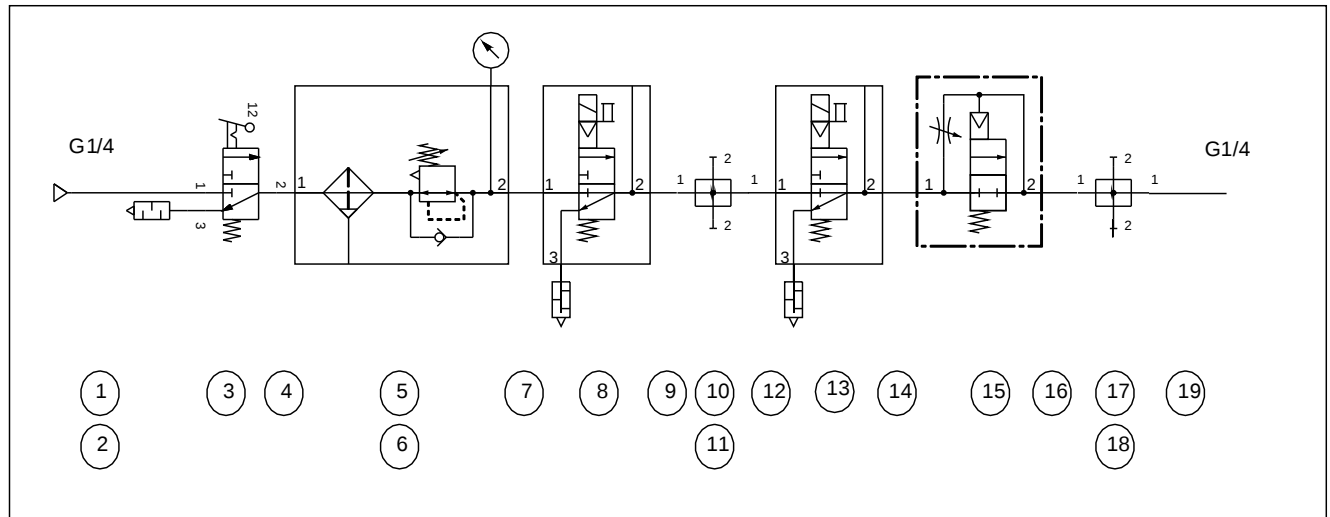
A pressure monitoring via a pressure switch is provided at the service unit. For this purpose, a released electronic pressure switch must be ordered separately. pressure switches see chapter 3.6.6 (SPA-U-).

## Service unit – with electric valve for sealing air - G1/4"

Order number: **8043227**

[Download Pneumatic Drawing](#)

### Structure:



### Part list:

| Pos. | Piece | Name                                               | Type                       | Part number |
|------|-------|----------------------------------------------------|----------------------------|-------------|
| 1    | 1     | Connecting plate 1/4"                              | MS4-AGB                    | 526069      |
| 2    | 1     | Module connector                                   | MS4-MV                     | 532798      |
| 3    | 1     | On-off valve with silencer 6842 U-1/4-B            | MS4-EM1-1/4-S              | 541259      |
| 4    | 1     | Mounting bracket                                   | MS4-WP                     | 532184      |
| 5    | 1     | Filter regulator 40µm                              | MS4-LFR-1/4-D7-E-R-M-A4-AS | 526489      |
|      | 1     | Filter cartridge 40 µm (replacement)               | MS4-LFP-E                  | 534502      |
| 6    | 1     | Pressure gauge red/green                           | MA-50-16-R1/4-E-RG         | 525729      |
| 7    | 1     | Module connector                                   | MS4-MV                     | 532798      |
| 8    | 1     | On-off valve electrical with silencer 6842 U-1/4-B | MS4-EE-1/4-10V24P-S        | 527709      |
| 9    | 1     | Module connector                                   | MS4-MV                     | 532798      |
| 10   | 1     | Branching module                                   | MS4-FRM-1/4                | 529555      |
| 11   | 2     | Blanking plug                                      | B-1/4                      | 3569        |
| 12   | 1     | Module connector                                   | MS4-MV                     | 532798      |
| 13   | 1     | On-off valve electrical with silencer 6842 U-1/4-B | MS4-EE-1/4-10V24P-S        | 527709      |
| 14   | 1     | Module connector                                   | MS4-MV                     | 532798      |
| 15   | 1     | Soft-start valve                                   | MS4-DL-1/4                 | 529531      |
| 16   | 1     | Mounting bracket                                   | MS4-WP                     | 532184      |
| 17   | 1     | Branching module                                   | MS4-FRM-1/4                | 529555      |
| 18   | 2     | Blanking plug                                      | B-1/4                      | 3569        |
| 19   | 1     | Module connector                                   | MS4-MV                     | 532798      |

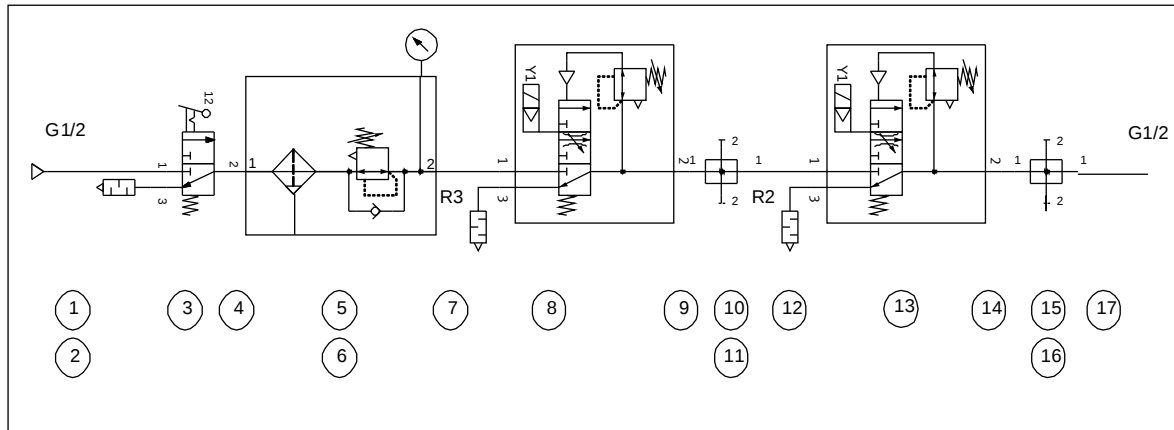
A pressure monitoring via a pressure switch is provided at the service unit. For this purpose, a released electronic pressure switch must be ordered separately. pressure switches see chapter 3.6.6 (SPAU-).

## Service unit - with electric valve for sealing air - G1/2"

Order number: **8043223**

[Download Pneumatic Drawing](#)

Structure:



### Part list:

| Pos. | Piece | Name                                                      | Type                       | Part number |
|------|-------|-----------------------------------------------------------|----------------------------|-------------|
| 1    | 1     | Connecting plate 1/2"                                     | MS6-AGD                    | 526082      |
| 2    | 1     | Module connector                                          | MS6-MV                     | 532799      |
| 3    | 1     | On-off valve with silencer 6844 U-1/2-B                   | MS6-EM1-1/2-S              | 541268      |
| 4    | 1     | Mounting bracket                                          | MS6-WP                     | 532195      |
| 5    | 1     | Filter regulator 40µm                                     | MS6-LFR-1/2-D7-E-R-M-A4-AS | 526490      |
|      | 1     | Filter cartridge 40 µm (replacement)                      | MS6-LFP-E                  | 534500      |
| 6    | 1     | Pressure gauge red/green                                  | MA-50-16-R1/4-E-RG         | 525729      |
| 7    | 1     | Module connector                                          | MS6-MV                     | 532799      |
| 8    | 1     | Soft-start/quick exhaust valve with silencer 6845 U-3/4-B | MS6-SV-1/2-C-10V24E-S      | 609307      |
| 9    | 1     | Module connector                                          | MS6-MV                     | 532799      |
| 10   | 1     | Branching module                                          | MS6-FRM-1/2                | 529853      |
| 11   | 2     | Blanking plug                                             | B-1/2                      | 3571        |
| 12   | 1     | Module connector                                          | MS6-MV                     | 532799      |
| 13   | 1     | Soft-start/quick exhaust valve with silencer 6845 U-3/4-B | MS6-SV-1/2-C-10V24E-S      | 609307      |
| 14   | 1     | Mounting bracket                                          | MS6-WP                     | 532195      |
| 15   | 1     | Branching module                                          | MS6-FRM-1/2                | 529853      |
| 16   | 2     | Blanking plug                                             | B-1/2                      | 3571        |
| 17   | 1     | Module connector                                          | MS6-MV                     | 532799      |

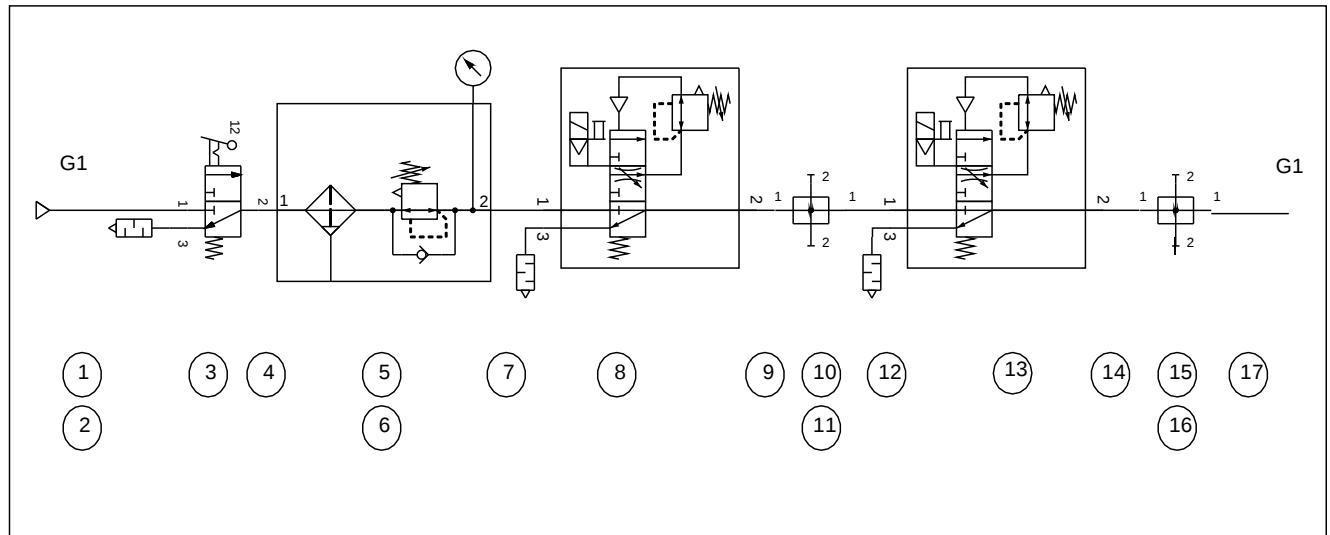
A pressure monitoring via a pressure switch is provided at the service unit. For this purpose, a released electronic pressure switch must be ordered separately. pressure switches see chapter 3.6.6 (SPAU-).

## Service unit - with electric valve for sealing air - G1"

Order number: **8043224**

[Download Pneumatic Drawing](#)

### Structure:



### Part list:

| Pos. | Piece | Name                                                      | Type                     | Part number |
|------|-------|-----------------------------------------------------------|--------------------------|-------------|
| 1    | 1     | Connecting plate 1"                                       | MS9-AGF                  | 552956      |
| 2    | 1     | Module connector                                          | MS9-MV                   | 552950      |
| 3    | 1     | On-off valve with silencer 151990 U-1-B                   | MS9-EM-G-S-VS            | 562952      |
| 4    | 1     | Mounting bracket                                          | MS9-WP                   | 552947      |
| 5    | 1     | Filter regulator 40µm                                     | MS9-LFR-G-D7-E-U-M-A4-AS | 562531      |
|      | 1     | Filter cartridge 40 µm (replacement)                      | MS9-LFP-E                | 570310      |
| 6    | 1     | Pressure gauge red/green                                  | MA-50-16-R1/4-E-RG       | 525729      |
| 7    | 1     | Module connector                                          | MS9-MV                   | 552950      |
| 8    | 1     | Soft-start/quick exhaust valve with silencer 151990 U-1-B | MS9-SV-G-C-10V24P-S-VS   | 562176      |
| 9    | 1     | Module connector                                          | MS9-MV                   | 552950      |
| 10   | 1     | Branching module                                          | MS9-FRM-G-VS             | 564145      |
| 11   | 2     | Blanking plug                                             | B-1                      | 5763        |
| 12   | 1     | Module connector                                          | MS9-MV                   | 552950      |
| 13   | 1     | Soft-start/quick exhaust valve with silencer 151990 U-1-B | MS9-SV-G-C-10V24P-S-VS   | 562176      |
| 14   | 1     | Mounting bracket                                          | MS9-WP                   | 552947      |
| 15   | 1     | Branching module                                          | MS9-FRM-G-VS             | 564145      |
| 16   | 2     | Blanking plug                                             | B-1                      | 5763        |
| 17   | 1     | Module connector                                          | MS9-MV                   | 552950      |

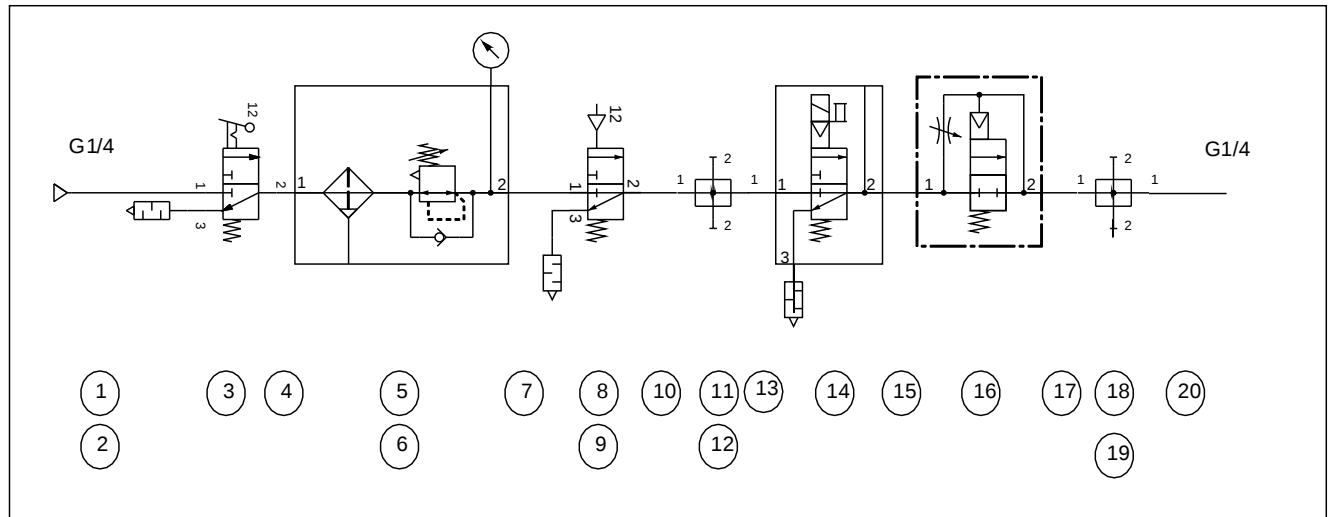
A pressure monitoring via a pressure switch is provided at the service unit. For this purpose, a released electronic pressure switch must be ordered separately. pressure switches see chapter 3.6.6 (SPAU-).

## Service unit - with pneumatic valve for sealing air - G1/4"

Order number: **8043228**

[Download Pneumatic Drawing](#)

### Structure:



### Part list:

| Pos. | Piece | Name                                               | Type                       | Part number |
|------|-------|----------------------------------------------------|----------------------------|-------------|
| 1    | 1     | Connecting plate 1/4"                              | MS4-AGB                    | 526069      |
| 2    | 1     | Module connector                                   | MS4-MV                     | 532798      |
| 3    | 1     | On-off valve with silencer 6842 U-1/4-B            | MS4-EM1-1/4-S              | 541259      |
| 4    | 1     | Mounting bracket                                   | MS4-WP                     | 532184      |
| 5    | 1     | Filter regulator 40µm                              | MS4-LFR-1/4-D7-E-R-M-A4-AS | 526489      |
|      | 1     | Filter cartridge 40 µm (replacement)               | MS4-LFP-E                  | 534502      |
| 6    | 1     | Pressure gauge red/green                           | MA-50-16-R1/4-E-RG         | 525729      |
| 7    | 1     | Module connector                                   | MS4-MV                     | 532798      |
| 8    | 1     | On-off valve pneumatic                             | MS4-EE-1/4-EP-CS           | 8028520     |
| 9    | 1     | silencer                                           | U-1/4-B                    | 6842        |
| 10   | 1     | Module connector                                   | MS4-MV                     | 532798      |
| 11   | 1     | Branching module                                   | MS4-FRM-1/4                | 529555      |
| 12   | 2     | Blanking plug                                      | B-1/4                      | 3569        |
| 13   | 1     | Module connector                                   | MS4-MV                     | 532798      |
| 14   | 1     | On-off valve electrical with silencer 6842 U-1/4-B | MS4-EE-1/4-10V24P-S        | 527709      |
| 15   | 1     | Module connector                                   | MS4-MV                     | 532798      |
| 16   | 1     | Soft-start valve                                   | MS4-DL-1/4                 | 529531      |
| 17   | 1     | Mounting bracket                                   | MS4-WP                     | 532184      |
| 18   | 1     | Branching module                                   | MS4-FRM-1/4                | 529555      |
| 19   | 2     | Blanking plug                                      | B-1/4                      | 3569        |
| 20   | 1     | Module connector                                   | MS4-MV                     | 532798      |

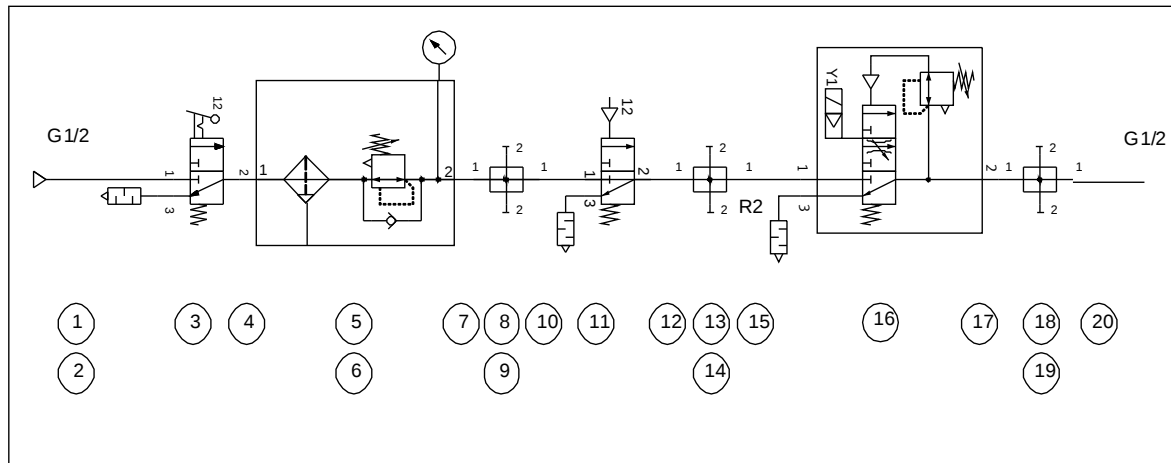
A pressure monitoring via a pressure switch is provided at the service unit. For this purpose, a released electronic pressure switch must be ordered separately. pressure switches see chapter 3.6.6 (SPAU-).

## Service unit - with pneumatic valve for sealing air - G1/2"

Order number: **8043225**

[Download Pneumatic Drawing](#)

### Structure:



### Part list:

| Pos. | Piece | Name                                                      | Type                       | Part number |
|------|-------|-----------------------------------------------------------|----------------------------|-------------|
| 1    | 1     | Connecting plate 1/2"                                     | MS6-AGD                    | 526082      |
| 2    | 1     | Module connector                                          | MS6-MV                     | 532799      |
| 3    | 1     | On-off valve with silencer 6844 U-1/2-B                   | MS6-EM1-1/2-S              | 541268      |
| 4    | 1     | Mounting bracket                                          | MS6-WP                     | 532195      |
| 5    | 1     | Filter regulator 40µm                                     | MS6-LFR-1/2-D7-E-R-M-A4-AS | 526490      |
|      | 1     | Filter cartridge 40 µm (replacement)                      | MS6-LFP-E                  | 534500      |
| 6    | 1     | Pressure gauge red/green                                  | MA-50-16-R1/4-E-RG         | 525729      |
| 7    | 1     | Module connector                                          | MS6-MV                     | 532799      |
| 8    | 1     | Branching module                                          | MS6-FRM-1/2                | 529853      |
| 9    | 2     | Blanking plug                                             | B-1/2                      | 3571        |
| 10   | 1     | Module connector                                          | MS6-MV                     | 532799      |
| 11   | 1     | On-off valve pneumatic with silencer 6844 U-1/2-B         | MS6-EE-1/2-EP-CS           | 3075309     |
| 12   | 1     | Module connector                                          | MS6-MV                     | 532799      |
| 13   | 1     | Branching module                                          | MS6-FRM-1/2                | 529853      |
| 14   | 2     | Blanking plug                                             | B-1/2                      | 3571        |
| 15   | 1     | Module connector                                          | MS6-MV                     | 532799      |
| 16   | 1     | Soft-start/quick exhaust valve with silencer 6845 U-3/4-B | MS6-SV-1/2-C-10V24E-S      | 609307      |
| 17   | 1     | Mounting bracket                                          | MS6-WP                     | 532195      |
| 18   | 1     | Branching module                                          | MS6-FRM-1/2                | 529853      |
| 19   | 2     | Blanking plug                                             | B-1/2                      | 3571        |
| 20   | 1     | Module connector                                          | MS6-MV                     | 532799      |

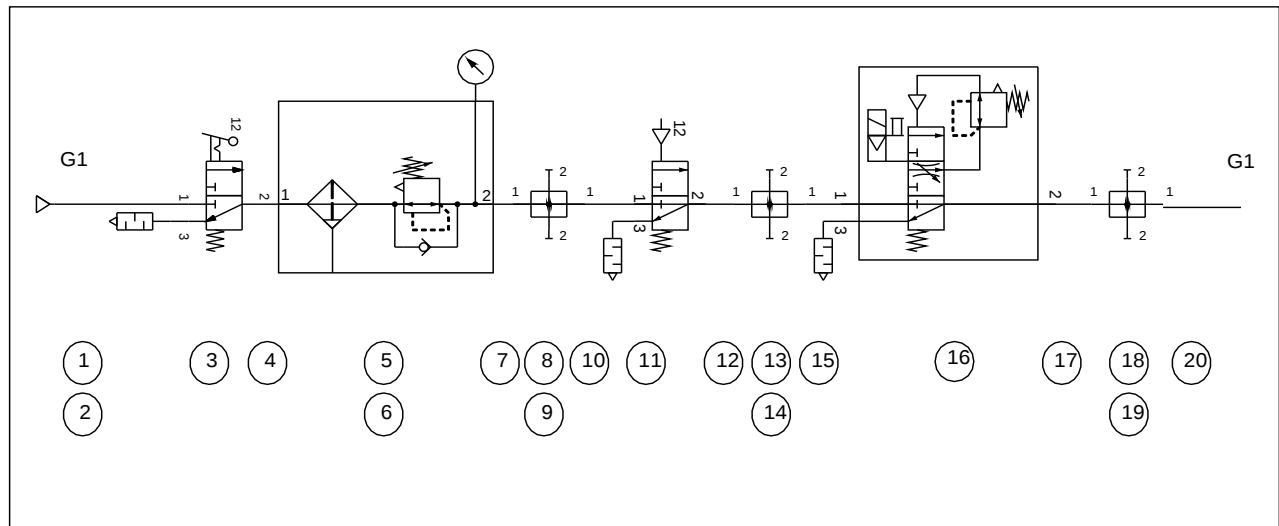
A pressure monitoring via a pressure switch is provided at the service unit. For this purpose, a released electronic pressure switch must be ordered separately. pressure switches see chapter 3.6.6 (SPAU-).

## Service unit - with pneumatic valve for sealing air - G1“

Order number: DE\_CS.1449360-A

[Download Pneumatic Drawing](#)

### Structure:



### Part list:

| Pos. | Piece | Name                                                      | Type                     | Part number |
|------|-------|-----------------------------------------------------------|--------------------------|-------------|
| 1    | 1     | Connecting plate 1"                                       | MS9-AGF                  | 552956      |
| 2    | 1     | Module connector                                          | MS9-MV                   | 552950      |
| 3    | 1     | On-off valve with silencer 151990 U-1-B                   | MS9-EM-G-S-VS            | 562952      |
| 4    | 1     | Mounting bracket                                          | MS9-WP                   | 552947      |
| 5    | 1     | Filter regulator 40µm                                     | MS9-LFR-G-D7-E-U-M-A4-AS | 562531      |
|      | 1     | Filter cartridge 40 µm (replacement)                      | MS9-LFP-E                | 570310      |
| 6    | 1     | Pressure gauge red/green                                  | MA-50-16-R1/4-E-RG       | 525729      |
| 7    | 1     | Module connector                                          | MS9-MV                   | 552950      |
| 8    | 1     | Branching module                                          | MS9-FRM-G-VS             | 564145      |
| 9    | 2     | Blanking plug                                             | B-1                      | 5763        |
| 10   | 1     | Module connector                                          | MS9-MV                   | 552950      |
| 11   | 1     | On-off valve pneumatic with silencer 151990 U-1-B         | MS9-EE-G-EP-S-VS-CS      | 2677260     |
| 12   | 1     | Module connector                                          | MS9-MV                   | 552950      |
| 13   | 1     | Branching module                                          | MS9-FRM-G-VS             | 564145      |
| 14   | 2     | Blanking plug                                             | B-1                      | 5763        |
| 15   | 1     | Module connector                                          | MS9-MV                   | 552950      |
| 16   | 1     | Soft-start/quick exhaust valve with silencer 151990 U-1-B | MS9-SV-G-C-10V24P-S-VS   | 562176      |
| 17   | 1     | Mounting bracket                                          | MS9-WP                   | 552947      |
| 18   | 1     | Branching module                                          | MS9-FRM-G-VS             | 564145      |
| 19   | 2     | Blanking plug                                             | B-1                      | 5763        |
| 20   | 1     | Module connector                                          | MS9-MV                   | 552950      |

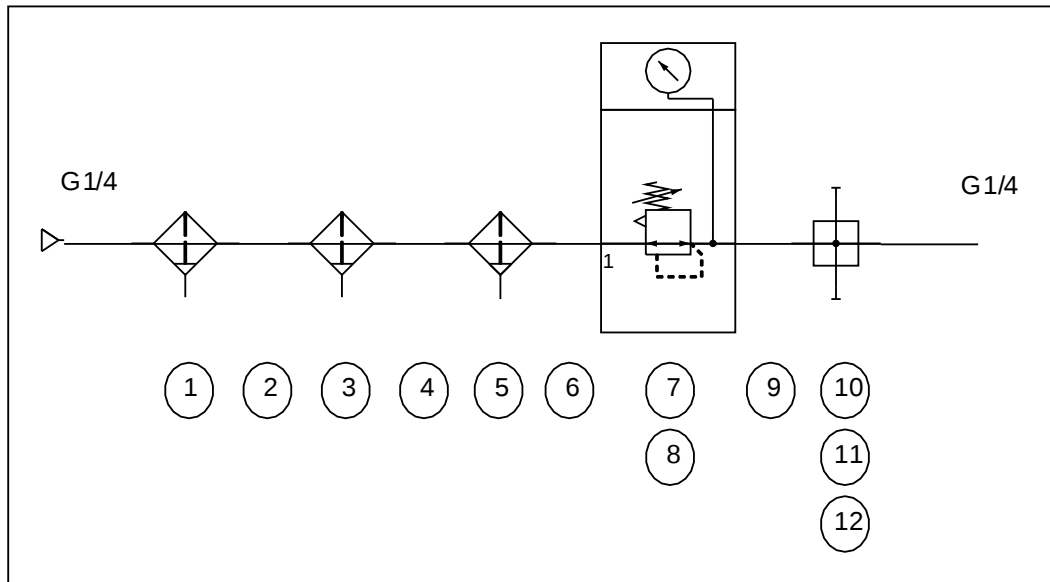
A pressure monitoring via a pressure switch is provided at the service unit. For this purpose, a released electronic pressure switch must be ordered separately. pressure switches see chapter 3.6.6 (SPAÜ-).

## Service unit - sealing air - G1/4"

Order number: DE\_CS.1431151-B

[Download Pneumatic Drawing](#)

### Structure:



### Part list:

| Pos. | Piece | Name                         | Type                 | Part number |
|------|-------|------------------------------|----------------------|-------------|
| 1    | 1     | Fine filter 1µm              | MS6-LFM-1/4-BRM      | 529667      |
| 2    | 1     | Mounting bracket             | MS6-WP               | 532195      |
| 3    | 1     | Micro filter 0,01µm          | MS6-LFM-1/4-ARM      | 529663      |
| 4    | 1     | Module connector             | MS6-MV               | 532799      |
| 5    | 1     | Activated carbon filter      | MS6-LFX-1/4-R        | 529683      |
| 6    | 1     | Module connector             | MS6-MV               | 532799      |
| 7    | 1     | Precision pressure regulator | MS6-LRP-1/4-D4-A8-AS | 538028      |
| 8    | 1     | Pressure gauge red/green     | MA-40-2,5-R1/8-E-RG  | 546963      |
| 9    | 1     | Mounting bracket             | MS6-WP               | 532195      |
| 10   | 1     | Branching module             | MS6-FRM-1/4          | 529857      |
| 11   | 2     | Blanking plug                | B-1/2                | 3571        |
| 12   | 1     | Push-in fitting              | QS-G1/4-6-I          | 186108      |

Compressed air quality Output:

1.7.1 to DIN ISO8573-1

Nominal flowrate:

ca. 380 l/ min

Min. flow rate to comply with the air quality class:

135 l/ min

### 3.9 Pneumatic fittings system

#### 3.9.1. PUN-H Standard O.D. tubing

| Name  | Order code | Remarks                                                                                                                                                                                          | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PUN-H | PUN-...    | Outside diameter: 4 ... 12 mm<br>Temperature-dependent operating pressure: -0.95 ... 10 bar<br>Ambient temperature: -35 ... 60° C<br>Operating medium<br>- Compressed air<br>- Vacuum<br>- Water |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code      | Name           | Links                                                                                                                                                                                                                                                                             |
|----------|-----------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 197383   | PUN-H-4X0,75-BL | plastic tubing | <a href="#">  </a>       |
| 197376   | PUN-H-4X0,75-NT | plastic tubing | <a href="#">  </a>       |
| 197384   | PUN-H-6X1-BL    | plastic tubing | <a href="#">  </a>       |
| 197377   | PUN-H-6X1-NT    | plastic tubing | <a href="#">  </a>       |
| 197385   | PUN-H-8X1,25-BL | plastic tubing | <a href="#">  </a>       |
| 197378   | PUN-H-8X1,25-NT | plastic tubing | <a href="#">  </a>       |
| 197386   | PUN-H-10X1,5-BL | plastic tubing | <a href="#">  </a>    |
| 197379   | PUN-H-10X1,5-NT | plastic tubing | <a href="#">  </a> |
| 197387   | PUN-H-12X2-BL   | plastic tubing | <a href="#">  </a> |
| 197380   | PUN-H-12X2-NT   | plastic tubing | <a href="#">  </a> |

#### 3.9.2. PUN-V0 Standard O.D. tubing

| Name   | Order code | Remarks                                                                                                                                                                                                       | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PUN-V0 | PUN-...    | Outside diameter: 4 ... 12mm<br>Temperature-dependent operating pressure: -0.95 ... 10 bar<br>Ambient temperature: -35 ... 60° C<br>Operating medium<br>- Compressed air<br>- Vacuum<br><br>for welding range |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code       | Name           | Links                                                                                                                                                                                                                                                                             |
|----------|------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 570349   | PUN-V0-4X1-SW-C  | plastic tubing | <a href="#">  </a> |
| 561698   | PUN-V0-6X2-SW-C  | plastic tubing | <a href="#">  </a> |
| 561699   | PUN-V0-8X2-SW-C  | plastic tubing | <a href="#">  </a> |
| 561700   | PUN-V0-10X2-SW-C | plastic tubing | <a href="#">  </a> |
| 561701   | PUN-V0-12X2-SW-C | plastic tubing | <a href="#">  </a> |

### 3.9.3. NPQE-F1A Push-in fittings

| Name                      | Order code | Remarks                                                                                                                                    | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Push-in fittings NPQE-F1A | NPQE-...   | Connection M5, M7, G1/8, G1/4<br>For tubing outside diameter 4, 6, 8, 10, 12 mm<br>Ambient temperature -5 ... 60 °C<br>Suitable for vacuum |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code              | Name            | Links                                                                                                                                                                                                                                                                       |
|----------|-------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8144605  | NPQE-DK-G14-Q10-F1A-P10 | push-in fitting | <a href="#">  </a> |
| 8144604  | NPQE-DK-G14-Q8-F1A-P10  | push-in fitting | <a href="#">  </a> |
| 8144600  | NPQE-DK-G18-Q6-F1A-P10  | push-in fitting | <a href="#">  </a> |
| 8144601  | NPQE-DK-G18-Q8-F1A-P10  | push-in fitting | <a href="#">  </a> |
| 8144595  | NPQE-DK-M5-Q4-F1A-P10   | push-in fitting | <a href="#">  </a> |
| 8144598  | NPQE-DK-M7-Q6-F1A-P10   | push-in fitting | <a href="#">  </a> |

### 3.9.4. NPQR Push-in fittings

| Name                                   | Order code | Remarks                                                                                                                                                                                                  | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Push-in fittings NPQR, stainless steel | NPQR-...   | Connection M5, M7, G1/8, G1/4, G3/8, G1/2<br>For outside tubing diameter 4, 6, 8, 10, 12 mm<br>Push-in sleeve: 4, 6, 8, 10, 12 mm<br>Threaded connection<br>- G thread<br>push-in fittings<br>Plug screw |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code      | Name            | Links                                                                                                                                                                                                                                                                             |
|----------|-----------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8085676  | NPQR-BK-G12     | plug screw      | <a href="#">  </a> |
| 8085674  | NPQR-BK-G14     | plug screw      | <a href="#">  </a> |
| 8085673  | NPQR-BK-G18     | plug screw      | <a href="#">  </a> |
| 8085675  | NPQR-BK-G38     | plug screw      | <a href="#">  </a> |
| 8085672  | NPQR-BK-M7      | plug screw      | <a href="#">  </a> |
| 8085669  | NPQR-DK-G12-Q12 | push-in fitting | <a href="#">  </a> |
| 8085666  | NPQR-DK-G14-Q10 | push-in fitting | <a href="#">  </a> |
| 8085665  | NPQR-DK-G14-Q8  | push-in fitting | <a href="#">  </a> |
| 8085662  | NPQR-DK-G18-Q6  | push-in fitting | <a href="#">  </a> |
| 8085663  | NPQR-DK-G18-Q8  | push-in fitting | <a href="#">  </a> |
| 8085667  | NPQR-DK-G38-Q10 | push-in fitting | <a href="#">  </a> |
| 8085668  | NPQR-DK-G38-Q12 | push-in fitting | <a href="#">  </a> |
| 8085657  | NPQR-DK-M5-Q4   | push-in fitting | <a href="#">  </a> |
| 8085660  | NPQR-DK-M7-Q6   | push-in fitting | <a href="#">  </a> |
| 8085700  | NPQR-D-Q10-E    | plug connector  | <a href="#">  </a> |
| 8085706  | NPQR-D-Q10-Q8   | plug connector  | <a href="#">  </a> |
| 8085701  | NPQR-D-Q12-E    | plug connector  | <a href="#">  </a> |
| 8085707  | NPQR-D-Q12-Q10  | plug connector  | <a href="#">  </a> |
| 8085697  | NPQR-D-Q4-E     | plug connector  | <a href="#">  </a> |

| Part no. | Order code     | Name                       | Links                                                        |
|----------|----------------|----------------------------|--------------------------------------------------------------|
| 8085698  | NPQR-D-Q6-E    | plug connector             | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085704  | NPQR-D-Q6-Q4   | plug connector             | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085699  | NPQR-D-Q8-E    | plug connector             | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085705  | NPQR-D-Q8-Q6   | plug connector             | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085732  | NPQR-H-Q10-E   | push-in bulkhead connector | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085733  | NPQR-H-Q12-E   | push-in bulkhead connector | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085729  | NPQR-H-Q4-E    | push-in bulkhead connector | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085730  | NPQR-H-Q6-E    | push-in bulkhead connector | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085731  | NPQR-H-Q8-E    | push-in bulkhead connector | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085688  | NPQR-L-G12-Q12 | push-in fitting            | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085685  | NPQR-L-G14-Q10 | push-in fitting            | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085684  | NPQR-L-G14-Q8  | push-in fitting            | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085681  | NPQR-L-G18-Q6  | push-in fitting            | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085682  | NPQR-L-G18-Q8  | push-in fitting            | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085686  | NPQR-L-G38-Q10 | push-in fitting            | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085687  | NPQR-L-G38-Q12 | push-in fitting            | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085679  | NPQR-L-M5-Q4   | push-in fitting            | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085712  | NPQR-L-Q10-E   | plug connector             | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085713  | NPQR-L-Q12-E   | plug connector             | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085709  | NPQR-L-Q4-E    | plug connector             | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085710  | NPQR-L-Q6-E    | plug connector             | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085711  | NPQR-L-Q8-E    | plug connector             | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085719  | NPQR-T-Q10-E   | plug connector             | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085720  | NPQR-T-Q12-E   | plug connector             | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085716  | NPQR-T-Q4-E    | plug connector             | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085717  | NPQR-T-Q6-E    | plug connector             | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 8085718  | NPQR-T-Q8-E    | plug connector             | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |

## 3.10 Control technology

### 3.10.1. VLG Pneumatic and electro-pneumatic controllers

| Name                  | Order code | Remarks                                                                        | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------|------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pulse oscillators VLG | VLG-...    | Connection G1/8, G 1/4<br>Flow rate 120 to 600 l/min<br>Frequency 0.5 to 50 Hz |  | <a href="#"> <a href="#">Catalogue</a></a><br><a href="#"> <a href="#">Documentation</a></a><br><a href="#"> <a href="#">电子目录</a></a><br><a href="#"> <a href="#">文档</a></a><br><a href="#"> <a href="#">카타로그</a></a><br><a href="#"> <a href="#">카탈로그 및 상세 정보</a></a> |

| Part no. | Order code | Name            | Links                                                        |
|----------|------------|-----------------|--------------------------------------------------------------|
| 4026     | VLG-4-1/4  | pulse generator | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |
| 4025     | VLG-4-1/8  | pulse generator | <a href="#">JDKI</a> <a href="#">PDF</a> <a href="#">CRD</a> |

### 3.11 Other pneumatic equipment

#### 3.11.1. U Silencers

| Name | Order code | Remarks                                                                                                                            | Picture                                                                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------|------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| U    | U-...      | Threaded connection M5, G1/2, G1/4, G1/8, G3/8, G3/4, G1<br>Barbed connector connection PK-3, PK-4<br>Noise level 65 ... 84 dB(A). |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

| Part no. | Order code | Name     | Links                                                                                                                                                                                                                                                                       |
|----------|------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6844     | U-1/2-B    | silencer | <a href="#">  </a> |
| 6842     | U-1/4-B    | silencer | <a href="#">  </a> |
| 6841     | U-1/8-B    | silencer | <a href="#">  </a> |
| 151990   | U-1-B      | silencer | <a href="#">  </a> |
| 6845     | U-3/4-B    | silencer | <a href="#">  </a> |
| 6843     | U-3/8-B    | silencer | <a href="#">  </a> |

#### 3.11.2. UO Silencers

| Name | Order code | Remarks                                                                                | Picture                                                                              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------|------------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UO   | UO-...     | Port thread M7, G1/8, G1/4<br>Special silencer with opening<br>For VN vacuum generator |  | <a href="#">  Catalogue</a><br><a href="#">  Documentation</a><br><a href="#">  电子目录</a><br><a href="#">  文档</a><br><a href="#">  카탈로그</a><br><a href="#">  카탈로그 및 상세 정보</a> |

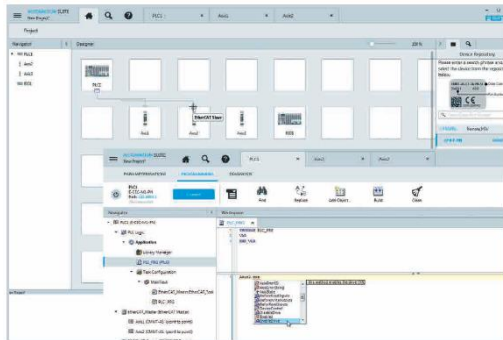
| Part no. | Order code | Name     | Links                                                                                                                                                                                                                                                                             |
|----------|------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 197584   | UO-1/4     | silencer | <a href="#">  </a> |
| 197583   | UO-1/8     | silencer | <a href="#">  </a> |

## 4. Software- and Engineeringtools

### 4.1.1. Festo Automation Suite FAS

**Note: Use Festo Automation Suite only from version 2.1.0.519.**

Parameterization, programming and maintenance of electronic devices from Festo



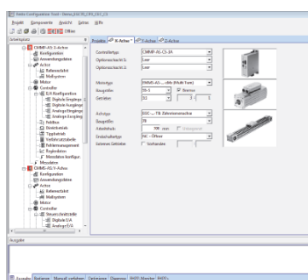
[Automation Suite](#)

### 4.1.2. "CMMT\_FullParam" function block

#### **Festo\_CMMT\_FullParam**

With this module, a motor controller can be put into operation with a customer-specific parameter set. The parameter set is generated from the Festo Automation Suite and can be read into the TIA Portal. This enables commissioning without Festo Automation Suite, e.g. in the event of a replacement.

Further information on operation and setup can be found in the user documentation for the motor controller.



[Access to the function block for the TIA Portal including documentation and application description](#)

[Manual for CMMT-ST](#)

## 5 Data sheet

|                                                                                                                                 |  |                                                          |  |                                                     |  |                          |  |                                                                                                                                    |  |                                                                                    |  |                                                                                                                                                                      |  |                                                                                                  |  |                                                                 |  |
|---------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------|--|-----------------------------------------------------|--|--------------------------|--|------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------|--|
| 1                                                                                                                               |  | 2                                                        |  | 3                                                   |  | 4                        |  | 5                                                                                                                                  |  | 6                                                                                  |  | 7                                                                                                                                                                    |  | 8                                                                                                |  |                                                                 |  |
| A                                                                                                                               |  | B                                                        |  | C                                                   |  | D                        |  | E                                                                                                                                  |  | F                                                                                  |  | G                                                                                                                                                                    |  | H                                                                                                |  |                                                                 |  |
|                                                                                                                                 |  |                                                          |  |                                                     |  |                          |  | <p><u>Sonderheit:</u>      <u>special feature:</u></p> <p>- Namur Drosselplatte mit GRLA      - Namur throttle plate with GRLA</p> |  | <p>Bestellbezeichnung:<br/>order description:      VABF-1/8-CS      1637036A</p>   |  | <p>Betriebsdruck:      0,3 bar bis 10 bar<br/>operating pressure:      0,3 bar bis 10 bar</p>                                                                        |  | <p>Umgebungstemperatur: 10 °C ... 60 °C<br/>Ambient temperature: 10 °C ... 60 °C</p>             |  | <p>UNE-Zertifiziert<br/>UNE-Certified<br/>VDA24364-Zone III</p> |  |
|                                                                                                                                 |  | <p>Kundentfreigabe / customer release<br/>Version: A</p> |  | <p>Datum / Unterschrift<br/>date / signature</p>    |  | <p>CS1637036A-NDNSAP</p> |  | <p>Creo Parametric - Zeichnung</p>                                                                                                 |  | <p>Index: EC-Nr.      Art.</p> <p>-      201119      4</p> <p>Typ: VABF-1/8-CS</p> |  | <p>Tag      Name      Werkstoff</p> <p>ges: 23-05-2021      SEA      -</p> <p>gelesen: 23-05-2021      GRL      -</p> <p>Freigabe: 31-05-2009      Gefertigt aus</p> |  | <p><b>FESTO</b></p> <p>Bl-Nr 1 / 1</p> <p>Material-Nr E02740341</p> <p>Dokument-Nr E04945136</p> |  |                                                                 |  |
| 1                                                                                                                               |  | 2                                                        |  | 3                                                   |  | 4                        |  | 5                                                                                                                                  |  | 6                                                                                  |  | 7                                                                                                                                                                    |  | 8                                                                                                |  |                                                                 |  |
| A                                                                                                                               |  | B                                                        |  | C                                                   |  | D                        |  | E                                                                                                                                  |  | F                                                                                  |  | G                                                                                                                                                                    |  | H                                                                                                |  |                                                                 |  |
| <p>Copyright by Festo SE &amp; Co. KG<br/>Copyright by Festo SE &amp; Co. KG<br/>Referenced to protection notice 150 90016.</p> |  | <p>1:1</p>                                               |  | <p>Bezeichnung Throttle plate<br/>DROSSELPLATTE</p> |  | <p>Disk-Art MAS</p>      |  | <p>archive drawing print date 11/23/2021 (mm/dd/yyyy) SEA</p>                                                                      |  | <p>6</p>                                                                           |  | <p>7</p>                                                                                                                                                             |  | <p>8</p>                                                                                         |  |                                                                 |  |