

# Released component list (RCL)

Pneumatics and electro pneumatics

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V2.1

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Revision summary:

| Revision no. | Description                                                                                                                                                                                                                                                                                        | Rev. Date  | Name |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------|
| 2.1          | Change 7.4 Controller CMMT-AS- MP<br>Add Tube in Black PUN-H....SW                                                                                                                                                                                                                                 | 05.08.2022 | MLLF |
| 2.0          | Change 2.1 Service Unit MSB6 to new article numbers<br>Change 7.1 Servo motors, EMMT-AS<br>Change 7.4 Controller CMMT-AS<br>Change 7.5 Controller CMMT-ST<br>Change 7.10 Connecting cables for motors EMMT-AS<br>Change 7.11 Connecting cables for motors EMMS-ST<br>Add 9.4 Position sensors SDAS | 20.07.2021 | MLLF |
| 1.5          | Add MPA-L valve terminal with IO-Link<br>Add VFOF one-way flow control valve<br>Add MS4/MS6-LR regulator<br>Add VUVG valve with external pilot air<br>Correction of formatting                                                                                                                     | 15.07.2019 | MLLF |
| 1.4          | Correction of spelling error and formatting                                                                                                                                                                                                                                                        | 25.10.2018 | MLLF |
| 1.3          | Add automatic drain for MSB6<br>Add configuration of OVEM, SPAU                                                                                                                                                                                                                                    | 21.09.2018 | MLLF |

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## Used symbols of this document

|                                                                                     |                                                                 |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------|
|  | Link to the documentation of the component                      |
|  | Link to the catalogue of the component                          |
|  | Link to the CAD model of the component                          |
|  | Link to the technical data sheet of the component               |
|  | Link to the accessories of the component                        |
|  | Link to the support portal of the component (software download) |
|  | Link to the operating instruction                               |
|  | Link to the E-Plan Data portal                                  |
|  | Link to spare parts                                             |

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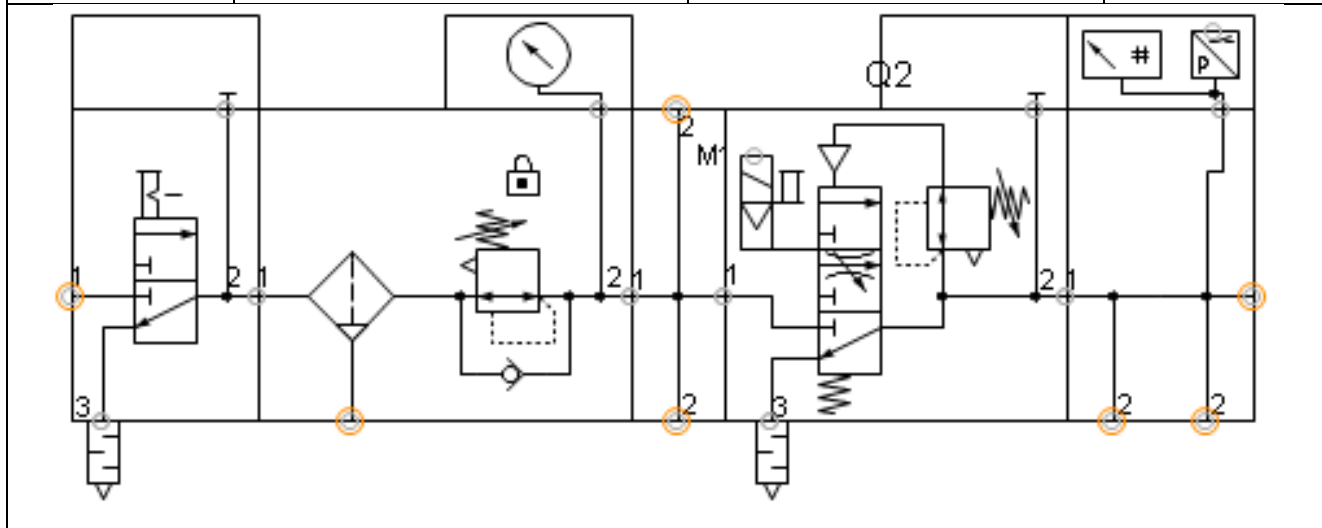
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## 2 Compressed air preparation

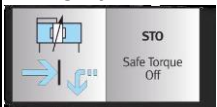
### 2.1 Service Unit MSB6

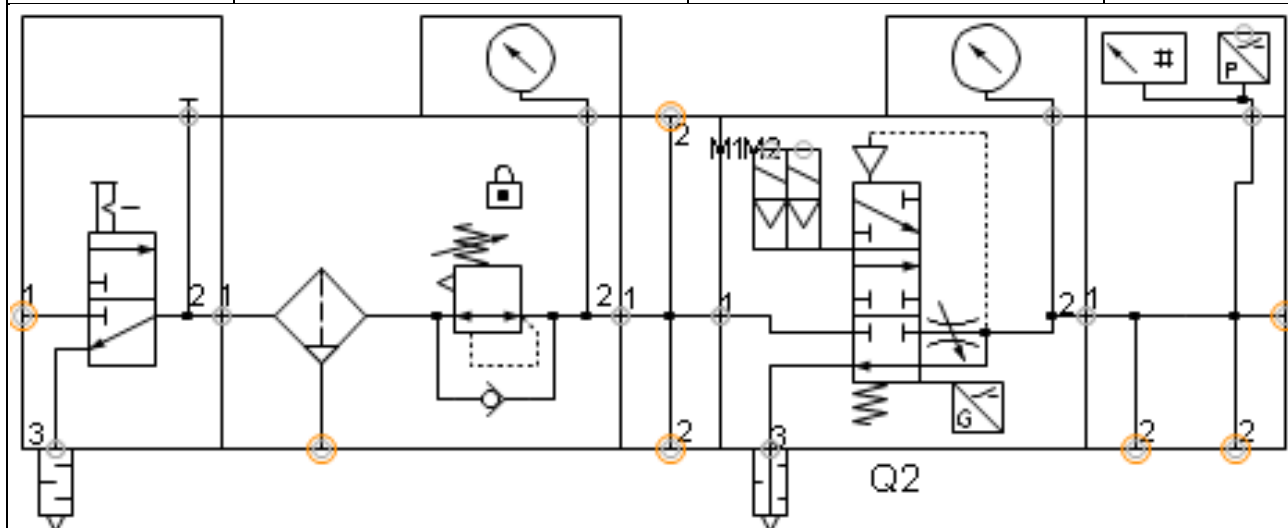
#### 2.1.1 Performance level C

| Name                                                                                                                                                                                                                                                                                                     | Order code / Festo project number                                                                                                                                              | Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Links                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| safety component<br>protection target :<br>STO<br>PL: C<br>Category: 1<br><br>protection target :<br>SDE<br>PL: C<br>Category: 1<br> | <b>531030</b><br><a href="#">MSB6-1/2:C4:J84:F14:V35:F15-WP</a><br><br>Branch with pressure switch SPAU including IO-Link:<br><a href="#">SPAU-P10R-MS4-F-L-PNLK-PNVBA-M8D</a> | Service Unit MSB6 <ul style="list-style-type: none"> <li>• 5100 l/min 1/2"</li> <li>• Manuel On-Off Valve EM1 (Lockable)</li> <li>• Filter Regulator Unit LFR               <ul style="list-style-type: none"> <li>– Regulation 7 bar/100 PSI</li> <li>– Lockable regulator</li> <li>– Pressure gauge</li> <li>– Automatic drain</li> </ul> </li> <li>• On/off valve electrical 24V DC               <ul style="list-style-type: none"> <li>– 1x M12x1 connection</li> </ul> </li> <li>• Pressure switch with IO-Link               <ul style="list-style-type: none"> <li>– 1x M12x1 connection</li> </ul> </li> <li>• Mounting bracket WP</li> </ul> | <a href="#">Documentation</a><br><a href="#">Operating instruct.</a><br><a href="#">Data sheet</a><br><a href="#">EPLAN Data Portal</a><br><a href="#">Accessories</a><br><a href="#">CAD/Eplan</a><br><a href="#">Spare parts</a> |
|                                                                                                                                                                                                                                                                                                          | <b>611085</b><br><a href="#">MSB6-1/2:C4:J83:F14:V35:F15-WP</a>                                                                                                                | As defined above. Only exception: <ul style="list-style-type: none"> <li>– Manuel drain</li> </ul> Recommended for high quality of compressed air                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                    |

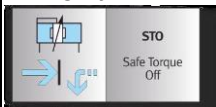


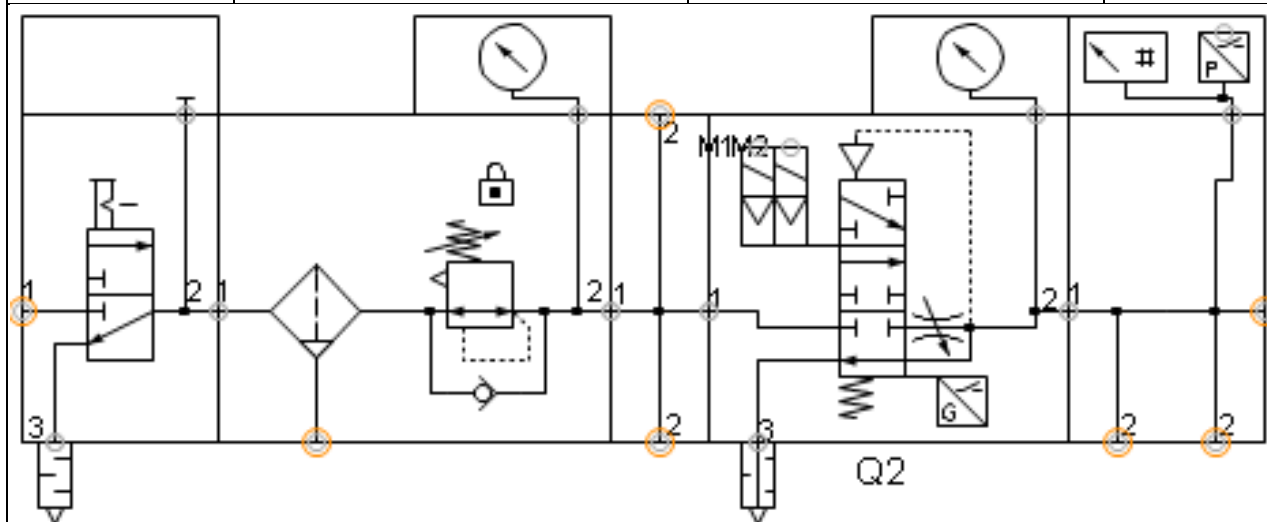
## 2.1.2 Performance level D

| Name                                                                                                                                                                                                                                                                                                         | Order code / Festo project number                                                                                                                                              | Remarks                                                                                                                                                                                                                                                                                                                                                                                                         | Links                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| safety component<br>protection target :<br>STO<br>PL: D<br>Category: 3<br><br><br>protection target :<br>SDE<br>PL: D<br>Category: 3<br> | <b>531030</b><br><a href="#">MSB6-1/2:C4:J84:F14:V39:F15-WP</a><br><br>Branch with pressure switch SPAU including IO-Link:<br><a href="#">SPAU-P10R-MS4-F-L-PNLK-PNVBA-M8D</a> | Service Unit MSB6:<br>• 5100 l/min 1/2"<br><br>• Manuel On-Off Valve EM1 (Lockable)<br><br>• Filter Regulator Unit LFR<br>– Regulation 7 bar/100 PSI<br>– Lockable regulator<br>– Pressure gauge<br>– Automatic drain<br><br>• On/off valve electrical 24V DC<br>– 2x M12x1 connection<br>– 2x M12x1 Feedback loops<br><br>• Pressure switch with IO-Link<br>– 1x M12x1 connection<br><br>• Mounting bracket WP | <a href="#">Documentation</a><br><a href="#">Operating instruct.</a><br><a href="#">Data sheet</a><br><a href="#">EPLAN Data Portal</a><br><a href="#">Accessories</a><br><a href="#">CAD/Eplan</a><br><a href="#">Spare parts</a> |
|                                                                                                                                                                                                                                                                                                              | <b>611086</b><br><a href="#">MSB6-1/2:C4:J83:F14:V39:F15-WP</a>                                                                                                                | As defined above. Only exception:<br>– Manuel drain<br>Recommended for high quality of compressed air                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                    |



### 2.1.3 Performance level E

| Name                                                                                                                                                                                                                                                                                                         | Order code / Festo project number                                                                                                                                               | Remarks                                                                                                                                                                                                                                                                                                                                                                                                                  | Links                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| safety component<br>protection target :<br>STO<br>PL: E<br>Category: 4<br><br><br>protection target :<br>SDE<br>PL: E<br>Category: 4<br> | <b>531030</b><br><a href="#">MSB6-1/2:C4:J84:F14:V41:F15-WPB</a><br><br>Branch with pressure switch SPAU including IO-Link:<br><a href="#">SPAU-P10R-MS4-F-L-PNLK-PNVBA-M8D</a> | Service Unit MSB6:<br>• 5100 l/min 1/2"<br><br>• Manuel On-Off Valve EM1 (Lockable)<br><br>• Filter Regulator Unit LFR<br>– Regulation 7 bar/100 PSI<br>– Lockable regulator<br>– Pressure gauge<br>– Automatic drain<br><br>• On/off valve electrical<br>NECA-S1G9-P9-MP5 (multi-pin plug socket)<br><br>• Pressure switch with IO-Link<br>– 1x M12x1 connection<br><br>• Mounting bracket WPB<br>– large wall distance | <a href="#">Documentation</a><br><a href="#">Operating instruct.</a><br><a href="#">Data sheet</a><br><a href="#">EPLAN Data Portal</a><br><a href="#">Accessories</a><br><a href="#">CAD/Eplan</a><br><a href="#">Spare parts</a> |
|                                                                                                                                                                                                                                                                                                              | <b>531030</b><br><a href="#">MSB6-1/2:C4:J83:F14:V41:F15-WPB</a>                                                                                                                | As defined above. Only exception:<br>– Manuel drain<br>Recommended for high quality of compressed air                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                    |



## 2.2 Water Separator

| Name                        | Order code                                                                                                                                                                | Remarks                                                                                                           | Picture / Link                                                                                                    |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Water separator<br>MS6-LWS- | D2 = 0,05 ... 0,7 bar<br>D4 = 0,05 ... 2,5 bar<br>D5 = 0,05 ... 4,0 bar<br>D7 = 0,05 ... 12 bar<br><br>A8= Adapter plate for MAP pressure gauge x, without pressure gauge | Use automatic dewatering at high water content in the compressed air<br><br>Assembly in front of the Service Unit |  <a href="#">Documentation</a> |

| Part no. | Order code      | Name            | Links                                                                                                                                                                                                                                                                                                                                           |
|----------|-----------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 564870   | MS6-LWS-1/2-U-V | Water separator |     |

## 2.3 Energy efficiency module

| Name                     | Order code   | Remarks                                                                                                                                                                                                                                                                                                                             | Picture / Link                                                                                                      |
|--------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Energy efficiency module | MSE6-E2M-... | Automatic shut-off when flow rate is not achieved<br>User-controlled shut-off and pressurising<br><br>Recording of measurement data:<br>Output pressure, pressure change, flow, air consumption<br><br>Limit monitoring:<br>- Pressure, upper limit value , pressure change, flow<br><br>Fieldbus connection ProfiNet M12 Connector |  <a href="#">Documentation</a> |

| Part no. | Order code             | Name            | Links                                                                                                                                                                                                                                                                                                                                                   |
|----------|------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3850287  | MSE6-E2M-5000-FB33-AGD | Water separator |     |

## 2.4 Pressure regulators

### 2.4.1 Pressure regulators MS4-LR

| Name   | Order code                                                                                                                                                            | Remarks                                        | Documentation                                                                                                     |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| MS4-LR | D5 = 0,05 ... 4,0 bar<br>D6 = 0,05 ... 7,0 bar<br><br>A8= Adapter plate<br><br>Each preassure Regulator must be equipped with SPAU sensor ( <a href="#">8001204</a> ) | Port G1/4<br><br>Flow rate 1000 ... 2100 l/min |  <a href="#">Documentation</a> |

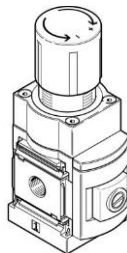
| Part no. | Order code       | Name               | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 527690   | MS4-LR-1/4-D5-A8 | pressure regulator |      |
| 527690   | MS4-LR-1/4-D6-A8 | pressure regulator |      |

### 2.4.2 Pressure regulators MS6-LR

| Name   | Order code                                                                                                                                                            | Remarks                                        | Documentation                                                                                                       |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| MS6-LR | D5 = 0,05 ... 4,0 bar<br>D6 = 0,05 ... 7,0 bar<br><br>A8= Adapter plate<br><br>Each preassure Regulator must be equipped with SPAU sensor ( <a href="#">8001204</a> ) | Port G1/2<br><br>Flow rate 2200 ... 7500 l/min |  <a href="#">Documentation</a> |

| Part no. | Order code       | Name               | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 527663   | MS6-LR-1/2-D5-A8 | pressure regulator |      |
| 527663   | MS6-LR-1/2-D6-A8 | pressure regulator |      |

### 2.4.3 Precision pressure regulators MS6-LRP

| Name    | Order code                                                                                                                                                                                                             | Remarks                                            | Picture / Link                                                                                                                                                                                               |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MS6-LRP | D2 = 0,05 ... 0,7 bar<br>D4 = 0,05 ... 2,5 bar<br>D5 = 0,05 ... 4,0 bar<br>D7 = 0,05 ... 12 bar<br><br>A8= Adapter plate<br><br>Each preassure Regulator must be equipped with SPAU sensor ( <a href="#">8001204</a> ) | Port G1/4, G1/2,<br><br>Flow rate 800 / 5000 l/min |  <a href="#">Documentation</a><br><br> |

| Part no. | Order code        | Name                         | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|-------------------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 538004   | MS6-LRP-1/4-D2-A8 | precision pressure regulator |      |
| 538006   | MS6-LRP-1/4-D4-A8 | precision pressure regulator |      |
| 538008   | MS6-LRP-1/4-D5-A8 | precision pressure regulator |      |
| 538010   | MS6-LRP-1/4-D7-A8 | precision pressure regulator |      |
| 538020   | MS6-LRP-1/2-D2-A8 | precision pressure regulator |      |
| 538022   | MS6-LRP-1/2-D4-A8 | precision pressure regulator |      |
| 538024   | MS6-LRP-1/2-D5-A8 | precision pressure regulator |      |
| 538026   | MS6-LRP-1/2-D7-A8 | precision pressure regulator |      |

### 2.4.4 Mounting components for regulators

| Name                               | Order code                                     | Remarks | Documentation                                                                                                       |
|------------------------------------|------------------------------------------------|---------|---------------------------------------------------------------------------------------------------------------------|
| Series MS modular and configurable | for regulatos MS4-...<br>for regulatos MS6-... |         |  <a href="#">Documentation</a> |

| Part no. | Order code | Name             | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 526064   | MS4-WR     | mounting bracket |      |
| 532187   | MS4-WRS    | hex nut          |      |
| 526075   | MS6-WR     | mounting bracket |      |
| 532188   | MS6-WRS    | hex nut          |      |

### 3 Valves

#### 3.1 Universal directional control valves VUVG

| Name                                                      | Order code | Remarks                                                                                                                                                         | Documentation                                                                                                     |
|-----------------------------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Valves VUVG, for individual connection, extended features | VUVG-...   | Connection M5, G1/8, G1/4<br>Flow rate 90 ... 1380 l/min<br>Pressure range 1,5 bar - 10 bar<br>Temperature range -5... +60°C<br>Voltage 24 V DC<br>M8 Connector |  <a href="#">Documentation</a> |

| Part no. | Order code                | Name                                   | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|---------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 576664   | VUVG-L10-B52-T-M5-1R8L    | solenoid valve 5/2 bistable            |                |
| 577596   | VUVG-L10-B52-ZT-M5-1R8L   | solenoid valve 5/2 bistable, pilot air |           |
| 572634   | VUVG-L10-M52-RT-M5-1R8L   | solenoid valve 5/2 monostable          |      |
| 589447   | VUVG-L10-P53C-ZT-M5-1R8L  | solenoid valve 5/3 closed, pilot air   |      |
| 577347   | VUVG-L10-T32C-AT-M5-1R8L  | solenoid valve 2x3/2 closed            |      |
| 574230   | VUVG-L14-B52-T-G18-1R8L   | solenoid valve 5/2 bistable            |      |
| 577597   | VUVG-L14-B52-ZT-G18-1R8L  | solenoid valve 5/2 bistable, pilot air |      |
| 8031508  | VUVG-L14-M52-MT-G18-1R8L  | solenoid valve 5/2 monostable          |      |
| 579125   | VUVG-L14-P53C-ZT-G18-1R8L | solenoid valve 5/3 closed, pilot air   |      |
| 574226   | VUVG-L14-T32C-AT-G18-1R8L | solenoid valve 2x3/2 closed            |      |
| 8031533  | VUVG-L18-B52-T-G14-1R8L   | solenoid valve 5/2 bistable            |      |
| 579128   | VUVG-L18-B52-ZT-G14-1R8L  | solenoid valve 5/2 bistable, pilot air |      |
| 8031532  | VUVG-L18-M52-MT-G14-1R8L  | solenoid valve 5/2 monostable          |      |
| 579130   | VUVG-L18-P53C-ZT-G14-1R8L | solenoid valve 5/3 closed, pilot air   |      |
| 8031525  | VUVG-L18-T32C-AT-G14-1R8L | solenoid valve 2x3/2 closed            |      |

### 3.1.1 Connecting cables für VUVG Valve

| Name | Order code | Remarks  | Documentation                                                                                                                                                                                            |
|------|------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NEBU | NEBU-...   | M8 plugs |  <a href="#">Documentation</a><br> |

| Part no. | Order code           | Name                       | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|----------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 541346   | NEBU-M8G3-K-0.5-M8G3 | cable, straight plug 0,5m  |                |
| 541332   | NEBU-M8G3-K-10-LE3   | cable, straight plug, 10m  |                |
| 541333   | NEBU-M8G3-K-2.5-LE3  | cable, straight plug, 2,5m |                |
| 541334   | NEBU-M8G3-K-5-LE3    | cable, straight plug, 5m   |                |
| 541335   | NEBU-M8W3-K-10-LE3   | cable, Angle plug, 10m     |      |
| 541338   | NEBU-M8W3-K-2.5-LE3  | cable, Angle plug, 2,5m    |      |
| 541341   | NEBU-M8W3-K-5-LE3    | cable, Angle plug, 5m      |      |

### 3.1.2 Manifold rails for VUVG Valve

| Name                    | Order code | Remarks | Documentation                                                                                                                                                                                                |
|-------------------------|------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manifold rails for VUVG | VABM-...   |         |  <a href="#">Documentation</a><br> |

| Part no. | Order code        | Name                                | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|-------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 566558   | VABM-L1-10S-G18-2 | manifold rail for VUVG-L10, 2 Valve |      |
| 566560   | VABM-L1-10S-G18-4 | manifold rail for VUVG-L10, 4 Valve |      |
| 566562   | VABM-L1-10S-G18-6 | manifold rail for VUVG-L10, 6 Valve |      |
| 566618   | VABM-L1-14S-G14-2 | manifold rail for VUVG-L14, 2 Valve |      |
| 566620   | VABM-L1-14S-G14-4 | manifold rail for VUVG-L14, 4 Valve |      |
| 566622   | VABM-L1-14S-G14-6 | manifold rail for VUVG-L14, 6 Valve |      |
| 574455   | VABM-L1-18S-G38-2 | manifold rail for VUVG-L18, 2 Valve |      |
| 574457   | VABM-L1-18S-G38-4 | manifold rail for VUVG-L18, 4 Valve |      |
| 574459   | VABM-L1-18S-G38-6 | manifold rail for VUVG-L18, 6 Valve |      |

### 3.1.3 Blanking plates for VABM

| Name                     | Order code | Remarks | Documentation                                                                                                     |
|--------------------------|------------|---------|-------------------------------------------------------------------------------------------------------------------|
| Blanking plates for VUVG | VABB-...   |         |  <a href="#">Documentation</a> |

| Part no. | Order code   | Name           | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------|--------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 566462   | VABB-L1-10-S | blanking plate |       |
| 569989   | VABB-L1-14   | blanking plate |       |
| 574482   | VABB-L1-18   | blanking plate |       |

### 3.1.4 Sealing elements for VUVG Manifold rails

| Name                                     | Order code | Remarks | Documentation                                                                                                       |
|------------------------------------------|------------|---------|---------------------------------------------------------------------------------------------------------------------|
| Sealing elements and separators for VUVG | VABD-...   |         |  <a href="#">Documentation</a> |

| Part no. | Order code        | Name | Links                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------|-------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 566672   | VABD-L1-10X-S-M5  | seal |       |
| 566675   | VABD-L1-14X-S-G18 | seal |       |
| 574479   | VABD-L1-18X-S-G14 | seal |       |

## 3.2 Non-return valves

### 3.2.1 Non-return valves HGL

| Name                     | Order code | Remarks                                                                                                                   | Documentation                                                                                                                                                                                            |
|--------------------------|------------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Piloted check valves HGL | HGL-...    | 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="#">Documentation</a><br> |

| Part no. | Order code    | Name                | Links                                                                                                                                                                                                                                                                                                                                                   |
|----------|---------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 530045   | HGL-1/2-QS-12 | Piloted check valve |             |
| 530042   | HGL-1/4-QS-10 | Piloted check valve |         |
| 530041   | HGL-1/4-QS-8  | Piloted check valve |     |
| 530039   | HGL-1/8-QS-4  | Piloted check valve |     |
| 530040   | HGL-1/8-QS-6  | Piloted check valve |     |
| 530044   | HGL-3/8-QS-10 | Piloted check valve |     |
| 530043   | HGL-3/8-QS-8  | Piloted check valve |     |
| 530038   | HGL-M5-QS-4   | Piloted check valve |     |

### 3.2.2 Non-return valves VFOF

| Name                                              | Order code | Remarks                                                                                                | Documentation                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| one-way flow control valve VFOF with hand exhaust | VFOF-...   | Port G1/8, G1/4<br>Flow rate 0 ... 650 l/min<br>Shut-off valve<br>- Pneumatic piloted non-return valve |  <a href="#">Catalogue</a><br> <a href="#">Documentation</a><br> |

| Part no. | Order code         | Name                       | Links                                                                                                                                                                                                                                                                                                                                                   |
|----------|--------------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1927030  | VFOF-LE-BAH-G14-Q8 | one-way flow control valve |     |
| 8001459  | VFOF-LE-BAH-G18-Q6 | one-way flow control valve |     |

### 3.3 Logic valves

#### 3.3.1 Logic valves OS

| Name                   | Order code | Remarks                                                          | Documentation                                                                                                     |
|------------------------|------------|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Logic components<br>OS | OS-...     | Flow rate 100 ... 5000 l/min<br>G1/8, G1/4, G1/2<br>OR function. |  <a href="#">Documentation</a> |

| Part no. | Order code | Name    | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3427     | OS-1/2     | OR gate |                |
| 6682     | OS-1/4-B   | OR gate |                |
| 6681     | OS-1/8-B   | OR gate |      |

#### 3.3.2 Logic valves VK

| Name                       | Order code       | Remarks                                                                           | Documentation                                                                                                       |
|----------------------------|------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Logic components<br>ZK, VK | VK-...<br>ZK-... | Flow rate 100 ... 550 l/min<br>M5, G1/8<br>AND function<br>NOT/amplifier modules. |  <a href="#">Documentation</a> |

| Part no. | Order code | Name             | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7425     | VK-R-M5    | amplifier module |      |
| 6680     | ZK-1/8-B   | AND gate         |      |

### 3.4 One-way flow control valves GRLA

| Name | Order code | Remarks                                                                                                                                                  | Documentation                                                                                                     |
|------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| GRLA | GRLA-...   | Connection M3, M5, G 1/8, G 1/4, G 3/8, G 1/2,<br>Plug connector 4, 6, 8, 10, 12 mm<br>Flow rate 0 ... 1,400 l/min<br>Non-return and flow control valve. |  <a href="#">Documentation</a> |

| Part no. | Order code       | Name                       | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 193152   | GRLA-1/2-QS-12-D | one-way flow control valve |                |
| 193148   | GRLA-1/4-QS-10-D | one-way flow control valve |                |
| 193146   | GRLA-1/4-QS-6-D  | one-way flow control valve |                |
| 193147   | GRLA-1/4-QS-8-D  | one-way flow control valve |           |
| 193143   | GRLA-1/8-QS-4-D  | one-way flow control valve |      |
| 193144   | GRLA-1/8-QS-6-D  | one-way flow control valve |      |
| 193145   | GRLA-1/8-QS-8-D  | one-way flow control valve |      |
| 193151   | GRLA-3/8-QS-10-D | one-way flow control valve |      |
| 193149   | GRLA-3/8-QS-6-D  | one-way flow control valve |      |
| 193150   | GRLA-3/8-QS-8-D  | one-way flow control valve |      |
| 193138   | GRLA-M5-QS-4-D   | one-way flow control valve |      |
| 193139   | GRLA-M5-QS-6-D   | one-way flow control valve |      |

### 3.5 Tamper - Proofed control valve

| Name                                                                                                                   | Festo PNr. | Remarks                                                                                                                                                                                                                                                                                                                                                           | Documentation / Comment                                                               |
|------------------------------------------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Tamper-proof flow control valve<br> |            | Setting a defined flow rate.<br>A spring pin protects against unauthorised resetting of the volumetric flow rate.<br>Impossible to change the flow control valve's setting with standard tools – thanks to the spring pin protection.<br>Six different sizes from M5 to 3/4".<br>Pressure 0,2 ... 10bar<br>Temperature range -10 ... 60°C<br>Flow 0 ... 2500l/min |  |

| Part no. | Order code    | Name                            | Links |
|----------|---------------|---------------------------------|-------|
| 539717   | GRLA-M5-B-SA  | Tamper-proof flow control valve |       |
| 539661   | GRLA-1/8-B-SA | Tamper-proof flow control valve |       |
| 539662   | GRLA-1/4-B-SA | Tamper-proof flow control valve |       |
| 539715   | GRLA-3/8-B-SA | Tamper-proof flow control valve |       |
| 539716   | GRLA-1/2-B-SA | Tamper-proof flow control valve |       |
| 539714   | GRLA-3/4-B-SA | Tamper-proof flow control valve |       |

### 3.6 Proportional valves

| Name                                  | Order code                                              | Remarks                                                                                                            | Documentation                                                                                                      |
|---------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Proportional-pressure regulators VPPM | VPPM-...<br>2H = 0-2bar<br>6H = 0-6bar<br>10H = 0-10bar | Connection G1/8, G1/4, G1/2<br>Flow rate: 380 ... 7000 l/min.<br>3-way proportional pressure regulators<br>IO-Link |  <a href="#">Documentation</a> |

| Part no. | Order code                   | Name                            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------------------------------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8024266  | VPPM-12L-L-1-G12-0L10H-LK-S1 | proportional pressure regulator |      |
| 8024264  | VPPM-12L-L-1-G12-0L2H-LK-S1  | proportional pressure regulator |      |
| 8024265  | VPPM-12L-L-1-G12-0L6H-LK-S1  | proportional pressure regulator |      |
| 8024260  | VPPM-6L-L-1-G18-0L10H-LK-S1  | proportional pressure regulator |      |
| 8024258  | VPPM-6L-L-1-G18-0L2H-LK-S1   | proportional pressure regulator |      |
| 8024259  | VPPM-6L-L-1-G18-0L6H-LK-S1   | proportional pressure regulator |      |
| 8024263  | VPPM-8L-L-1-G14-0L10H-LK-S1  | proportional pressure regulator |      |
| 8024261  | VPPM-8L-L-1-G14-0L2H-LK-S1   | proportional pressure regulator |      |
| 8024262  | VPPM-8L-L-1-G14-0L6H-LK-S1   | proportional pressure regulator |      |

### 3.7 Control block VOFA with safety function

| Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Order code                                                                          | Remarks                                                                                                                             | Documentation                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>Control blocks VOFA</b><br><br>protection target :<br><b>STO</b><br>PL: E<br>Category: 4<br><br><br>protection target :<br><b>SDE</b><br>PL: E<br>Category: 4<br><br><br>protection target :<br><b>SDI</b><br>PL: E<br>Category: 4<br> | VOFA-...<br><br>Protection target:<br>STO / SDE = ...-T32C-...<br>SDI = ...-T52-... | Soft-start valve<br>3/2 ore 5/2-way valve with switching position<br>sensing, redundant<br>Flow rate 1100 l/min<br>Voltage: 24 V DC | <a href="#">PDF Documentation</a><br> |

| Part no. | Order code                  | Name                            | Links                                                                         |
|----------|-----------------------------|---------------------------------|-------------------------------------------------------------------------------|
| 574011   | VOFA-L26-T32C-M-G14-1C1-APP | Control block (saftey function) | <a href="#">OK</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">PDF</a> |
| 569819   | VOFA-L26-T52-M-G14-1C1-APP  | Control block (saftey function) | <a href="#">OK</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">PDF</a> |

### 3.8 Valve terminal MPA-L with IO-Link

| Name                                     | Order code                                                                                                                                                                                                                                                                                                                                                                                                                     | Remarks                                                                                                                                                                                                                        | Documentation                                                                                                                                                                                                                               |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Valve terminals<br>MPA-L with<br>IO-Link | <p>Based Code:<br/> <a href="#">34P-LK-E-U4ABBU-XXXX-UL1</a></p> <p>Interlinking Block:<br/> A= for 200 l/min      B= for 600 l/min<br/> approved valve types:<br/> MS = 5/2-way valve, single solenoid, mechanical spring<br/> J = 5/2-way valve, double solenoid<br/> G = 5/3-way valve, mid-position closed<br/> KS = 2x3/2-way valve, normally closed, mechanical spring</p> <p>Every installtion need 2 empty spaces.</p> | <p>Controlled via IO-Link<br/> Max. 16 valve positions/max. 32 solenoid coils<br/> Integrated convenient diagnostics system<br/> Preventive maintenance concepts.<br/> Pneumatik Supply D10<br/> External Pilot air supply</p> | <p> <a href="#">Catalogue</a><br/> <a href="#">Documentation</a></p> <p>Click on the Link by Order Code, then the basic configuration will be loaded</p> |

### 3.9 Automation Platform MPA-S with CPX

| Name                    | Order code                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Remarks                                                                                                                                                                                                                                                                                                                                        | Documentation                                                                                                                                                                                                                                 |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MPA-S with CPX terminal | <p>Based Code:<br/> <a href="#">50E-F33GCQP-D-UL1+GS</a><br/> <a href="#">32P-TGL-R-MXXXXU-XXXX</a></p> <p>Interlinking Block:<br/> A= for 200 l/min      B= for 600 l/min<br/> approved valve types:<br/> MS = 5/2-way valve, single solenoid, mechanical spring<br/> J = 5/2-way valve, double solenoid<br/> G = 5/3-way valve, mid-position closed<br/> KS = 2x3/2-way valve, normally closed, mechanical spring</p> <p>Every installtion need 2 empty spaces.</p> | <p>Controlled via ProfiNet fieldbus<br/> Max. 64 valve positions/max. 128 solenoid coils<br/> Digital inputs/outputs<br/> Analogue inputs/outputs<br/> Parameterisation of inputs and outputs<br/> Integrated convenient diagnostics system<br/> Preventive maintenance concepts.<br/> Pneumatik Supply D10<br/> External Pilot air supply</p> | <p> <a href="#">Catalogue</a><br/> <a href="#">Documentation</a></p> <p>Click on the Link by Order Code, then the basic configuration will be loaded</p> |

### 3.10 Motion Terminal VTEM

| Name                                                                                | Bemerkungen                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Kommentar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Documentation |                 |                                                                                   |                      |                                                                                   |                         |                                                                                   |                            |                                                                                   |                                           |                                                                                   |                          |                                                                                   |           |                                                                                   |                    |                                                                                   |                             |                                                                                     |           |                                                                                     |                                   |                                                                                     |                  |                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------|-----------------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------|--------------------------|-----------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------|--------------------|-----------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------------------|-----------------------------------|-------------------------------------------------------------------------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Motion Terminal VTEM                                                                | <p>The digitalisation we are experiencing as part of Industry 4.0 will profoundly alter the world of production. With the Festo Motion Terminal, Festo is launching the world's first standardised platform that will develop into a "cyber-physical system" thanks to its intelligent fusion of mechanics, electronics and software. This system is characterised by an extremely high level of adaptability and flexibility. It will enable you to build intelligent machines now for the world of tomorrow, and ensure your systems are truly ready for Industry 4.0, even in terms of pneumatics.</p> <p>world('s) first</p> | <table><tr><th>Symbol</th><th>Motion App Name</th></tr><tr><td></td><td>Wegeventilfunktionen</td></tr><tr><td></td><td>Proportional-Wegeventil</td></tr><tr><td></td><td>Proportional-Druckregelung</td></tr><tr><td></td><td>Modellbasierte Proportional-Druckregelung</td></tr><tr><td></td><td>Zu- und Abluftdrosselung</td></tr><tr><td></td><td>ECO-Fahrt</td></tr><tr><td></td><td>Verfahrzeitvorgabe</td></tr><tr><td></td><td>Wählbares Druckniveau (ECO)</td></tr><tr><td></td><td>Soft Stop</td></tr><tr><td></td><td>Bewegungsprofil und Positionieren</td></tr><tr><td></td><td>Diagnose Leckage</td></tr></table> | Symbol        | Motion App Name |  | Wegeventilfunktionen |  | Proportional-Wegeventil |  | Proportional-Druckregelung |  | Modellbasierte Proportional-Druckregelung |  | Zu- und Abluftdrosselung |  | ECO-Fahrt |  | Verfahrzeitvorgabe |  | Wählbares Druckniveau (ECO) |  | Soft Stop |  | Bewegungsprofil und Positionieren |  | Diagnose Leckage | <p><a href="#">Information</a></p> <p><a href="#">Documentation</a></p> <p><a href="#">APP World</a></p>  |
| Symbol                                                                              | Motion App Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                 |                                                                                   |                      |                                                                                   |                         |                                                                                   |                            |                                                                                   |                                           |                                                                                   |                          |                                                                                   |           |                                                                                   |                    |                                                                                   |                             |                                                                                     |           |                                                                                     |                                   |                                                                                     |                  |                                                                                                                                                                                              |
|    | Wegeventilfunktionen                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                 |                                                                                   |                      |                                                                                   |                         |                                                                                   |                            |                                                                                   |                                           |                                                                                   |                          |                                                                                   |           |                                                                                   |                    |                                                                                   |                             |                                                                                     |           |                                                                                     |                                   |                                                                                     |                  |                                                                                                                                                                                              |
|    | Proportional-Wegeventil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                 |                                                                                   |                      |                                                                                   |                         |                                                                                   |                            |                                                                                   |                                           |                                                                                   |                          |                                                                                   |           |                                                                                   |                    |                                                                                   |                             |                                                                                     |           |                                                                                     |                                   |                                                                                     |                  |                                                                                                                                                                                              |
|    | Proportional-Druckregelung                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                 |                                                                                   |                      |                                                                                   |                         |                                                                                   |                            |                                                                                   |                                           |                                                                                   |                          |                                                                                   |           |                                                                                   |                    |                                                                                   |                             |                                                                                     |           |                                                                                     |                                   |                                                                                     |                  |                                                                                                                                                                                              |
|    | Modellbasierte Proportional-Druckregelung                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                 |                                                                                   |                      |                                                                                   |                         |                                                                                   |                            |                                                                                   |                                           |                                                                                   |                          |                                                                                   |           |                                                                                   |                    |                                                                                   |                             |                                                                                     |           |                                                                                     |                                   |                                                                                     |                  |                                                                                                                                                                                              |
|    | Zu- und Abluftdrosselung                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                 |                                                                                   |                      |                                                                                   |                         |                                                                                   |                            |                                                                                   |                                           |                                                                                   |                          |                                                                                   |           |                                                                                   |                    |                                                                                   |                             |                                                                                     |           |                                                                                     |                                   |                                                                                     |                  |                                                                                                                                                                                              |
|    | ECO-Fahrt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                 |                                                                                   |                      |                                                                                   |                         |                                                                                   |                            |                                                                                   |                                           |                                                                                   |                          |                                                                                   |           |                                                                                   |                    |                                                                                   |                             |                                                                                     |           |                                                                                     |                                   |                                                                                     |                  |                                                                                                                                                                                              |
|    | Verfahrzeitvorgabe                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                 |                                                                                   |                      |                                                                                   |                         |                                                                                   |                            |                                                                                   |                                           |                                                                                   |                          |                                                                                   |           |                                                                                   |                    |                                                                                   |                             |                                                                                     |           |                                                                                     |                                   |                                                                                     |                  |                                                                                                                                                                                              |
|    | Wählbares Druckniveau (ECO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                 |                                                                                   |                      |                                                                                   |                         |                                                                                   |                            |                                                                                   |                                           |                                                                                   |                          |                                                                                   |           |                                                                                   |                    |                                                                                   |                             |                                                                                     |           |                                                                                     |                                   |                                                                                     |                  |                                                                                                                                                                                              |
|  | Soft Stop                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                 |                                                                                   |                      |                                                                                   |                         |                                                                                   |                            |                                                                                   |                                           |                                                                                   |                          |                                                                                   |           |                                                                                   |                    |                                                                                   |                             |                                                                                     |           |                                                                                     |                                   |                                                                                     |                  |                                                                                                                                                                                              |
|  | Bewegungsprofil und Positionieren                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                 |                                                                                   |                      |                                                                                   |                         |                                                                                   |                            |                                                                                   |                                           |                                                                                   |                          |                                                                                   |           |                                                                                   |                    |                                                                                   |                             |                                                                                     |           |                                                                                     |                                   |                                                                                     |                  |                                                                                                                                                                                              |
|  | Diagnose Leckage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                 |                                                                                   |                      |                                                                                   |                         |                                                                                   |                            |                                                                                   |                                           |                                                                                   |                          |                                                                                   |           |                                                                                   |                    |                                                                                   |                             |                                                                                     |           |                                                                                     |                                   |                                                                                     |                  |                                                                                                                                                                                              |

## 4 Vacuum technology

### 4.1 Vacuum generators OVEM

| Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Order code | Remarks                                                                                                                                                                   | Documentation                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| OVEM vacuum generator, metric                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | OVEM-...   | Nominal diameter 0.45 ... 1.4 mm<br>-Plug connector QS6, QS8<br>Solenoid valve vacuum IN/OUT<br>Solenoid valve for ejector pulse<br>Integrated vacuum switch.<br>IO- Link |  <a href="#">Documentation</a> |
| <p>The integrated air-saving function of the OVEM device must be enabled and configured by teaching as listed below.</p> <p><i>Device / Device Access locks/<br/>Air-Save Function = Enable<br/>BDC1 (OutA Air-Save)<br/>Setpoint SP1 = (?) must be taught<br/>Setpoint SP2 = (?) must be taught<br/>Switchpoint logic = NO<br/>Switchpoint mode = Threshold value comparator<br/>Switchpoint hysteresis = (?) must be taught</i></p> <p>In case that the vacuum is lost then the digital output A of the sensor will be high. The PLC shall monitor that signal, to communicate failures during the sequence.</p> <p>The integrated condition monitoring function, which will monitor the expected time for evacuation and ventilation shall be enabled and configured by teaching as listed below.</p> <p><i>BDC4 (Time Monitoring evacuation/ventilation)<br/>SP1 (evacuation timeout) = (?) must be taught<br/>SP2 (ventilation timeout) = (?) must be taught<br/>Switchpoint logic = NO<br/>Switchpoint mode = Vendor specific comparator<br/>Switchpoint hysteresis = (?) must be taught</i></p> <p>The configuration of the evacuation timeout and ventilation timeout shall still enable the production equipment to perform the dedicated vacuum task, without stop of the production. In case exceeding the timeout (digital output B = high), the PLC shall communicate a warning message to the HMI so that a predictive maintenance can be done.</p> |            |                                                                                                                                                                           |                                                                                                                   |

| Part no. | Order code             | Name             | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8037693  | OVEM-05-H-B-QO-CE-N-LK | vacuum generator |      |
| 8037694  | OVEM-07-H-B-QO-CE-N-LK | vacuum generator |      |
| 8037695  | OVEM-10-H-B-QO-CE-N-LK | vacuum generator |      |
| 8037696  | OVEM-14-H-B-QO-CE-N-LK | vacuum generator |      |

#### 4.1.1 Connecting cables for OVEM

The component „NEBU“ should be used.

See paragraph [“7.9 Connecting cables for CAPC, CTEL”](#)

### 4.2 Vacuum gripping technology, ESG round/oval

| Name                          | Order code                                                                                                                                                                                                                                                 | Remarks                                                                                                                                                                                                                                                                                                 | Documentation                                                                                                                                      |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Suction gripper<br>ESG, round | Related to the different usecases, the whole program within that categorie is allowed to use. See link to the configurator<br><br><a href="#">Configurator- Round</a><br><a href="#">Configurator-Oval</a><br><br>Vaccum filters (VAF) must be integrated. | Suction cup size diameter 2 ... 200 mm<br>Connection<br>- Male thread, Female thread, Push-in connector, Barbed connector,<br><br>Round suction cup<br>- Standard<br>- Extra deep suction cup<br>- Bellows, 1.5-fold<br>- Bellows, 3.5-fold<br>- Bell-shaped<br>Height compensator<br>Angle compensator | <br><a href="#">Catalogue</a><br><a href="#">Documentation</a> |

### 4.3 Vacuum filters, VAF

| Name                  | Order code | Remarks                                                         | Documentation                                                                                                          |
|-----------------------|------------|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Vacuum filters<br>VAF | VAF-...    | Connection<br>Tube connector 3, 4, 6 mm<br>Inline installation. | <br><a href="#">Documentation</a> |

| Part no. | Order code | Name          | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 553141   | VAF-DB-1/2 | vacuum filter |      |
| 547261   | VAF-DB-1/4 | vacuum filter |      |
| 553140   | VAF-DB-3/8 | vacuum filter |      |
| 535883   | VAF-PK-3   | vacuum filter |      |
| 15889    | VAF-PK-4   | vacuum filter |      |
| 160239   | VAF-PK-6   | vacuum filter |      |

## 4.4 Vacuum security valves, ISV

| Name                       | Order code | Remarks                                                                                                                          | Documentation                                                                                                     |
|----------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Vacuum security valves ISV | ISV-...    | Port M4, M5, M6, M10, G1/8, G1/4, G3/8<br>Maintaining the vacuum when using several suction cups and failure of one suction cup. |  <a href="#">Documentation</a> |

| Part no. | Order code | Name                  | Links |
|----------|------------|-----------------------|-------|
| 33970    | ISV-1/4    | vacuum security valve |       |
| 33969    | ISV-1/8    | vacuum security valve |       |
| 33971    | ISV-3/8    | vacuum security valve |       |
| 545998   | ISV-M10    | vacuum security valve |       |
| 545996   | ISV-M4     | vacuum security valve |       |
| 151217   | ISV-M5     | vacuum security valve |       |
| 545997   | ISV-M6     | vacuum security valve |       |

## 5 Pneumatic drives

### 5.1 Compact cylinders to ISO 21287, ADN

| Name                 | Order code | Remarks                                                                                                            | Documentation                                                                                                       |
|----------------------|------------|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Compact cylinder ADN | ADN-...    | Diameter:16, 32, 40, 50, 63, 80, 100 mm<br>Force: 121...4712 N<br>Double-acting<br>Fixed/self-adjusting cushioning |  <a href="#">Documentation</a> |

| Part no. | Order code      | Name             | Links |
|----------|-----------------|------------------|-------|
| 536220   | ADN-16-10-A-P-A | compact cylinder |       |
| 536227   | ADN-16-10-I-P-A | compact cylinder |       |
| 536222   | ADN-16-20-A-P-A | compact cylinder |       |
| 536229   | ADN-16-20-I-P-A | compact cylinder |       |
| 536224   | ADN-16-30-A-P-A | compact cylinder |       |
| 536231   | ADN-16-30-I-P-A | compact cylinder |       |
| 536225   | ADN-16-40-A-P-A | compact cylinder |       |

|        |                   |                  |                                                                                                                                                                                                                                                                                                                                                         |
|--------|-------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 536232 | ADN-16-40-I-P-A   | compact cylinder |             |
| 536269 | ADN-32-10-A-P-A   | compact cylinder |             |
| 536279 | ADN-32-10-I-P-A   | compact cylinder |             |
| 536271 | ADN-32-20-A-P-A   | compact cylinder |             |
| 536281 | ADN-32-20-I-P-A   | compact cylinder |             |
| 536273 | ADN-32-30-A-P-A   | compact cylinder |             |
| 536283 | ADN-32-30-I-P-A   | compact cylinder |             |
| 572660 | ADN-32-40-A-PPS-A | compact cylinder |             |
| 572651 | ADN-32-40-I-PPS-A | compact cylinder |             |
| 572661 | ADN-32-50-A-PPS-A | compact cylinder |             |
| 572652 | ADN-32-50-I-PPS-A | compact cylinder |             |
| 536290 | ADN-40-10-A-P-A   | compact cylinder |             |
| 536300 | ADN-40-10-I-P-A   | compact cylinder |             |
| 536292 | ADN-40-20-A-P-A   | compact cylinder |             |
| 536302 | ADN-40-20-I-P-A   | compact cylinder |             |
| 536294 | ADN-40-30-A-P-A   | compact cylinder |         |
| 536304 | ADN-40-30-I-P-A   | compact cylinder |     |
| 572678 | ADN-40-40-A-PPS-A | compact cylinder |     |
| 572669 | ADN-40-40-I-PPS-A | compact cylinder |     |
| 572679 | ADN-40-50-A-PPS-A | compact cylinder |     |
| 572670 | ADN-40-50-I-PPS-A | compact cylinder |     |
| 536311 | ADN-50-10-A-P-A   | compact cylinder |     |
| 536321 | ADN-50-10-I-P-A   | compact cylinder |     |
| 536313 | ADN-50-20-A-P-A   | compact cylinder |     |
| 536323 | ADN-50-20-I-P-A   | compact cylinder |     |
| 536315 | ADN-50-30-A-P-A   | compact cylinder |     |
| 536325 | ADN-50-30-I-P-A   | compact cylinder |     |
| 572696 | ADN-50-40-A-PPS-A | compact cylinder |     |
| 572687 | ADN-50-40-I-PPS-A | compact cylinder |     |
| 572697 | ADN-50-50-A-PPS-A | compact cylinder |     |
| 572688 | ADN-50-50-I-PPS-A | compact cylinder |     |
| 536332 | ADN-63-10-A-P-A   | compact cylinder |     |
| 536342 | ADN-63-10-I-P-A   | compact cylinder |     |
| 536334 | ADN-63-20-A-P-A   | compact cylinder |     |
| 536344 | ADN-63-20-I-P-A   | compact cylinder |     |
| 536336 | ADN-63-30-A-P-A   | compact cylinder |     |
| 536346 | ADN-63-30-I-P-A   | compact cylinder |     |
| 572714 | ADN-63-40-A-PPS-A | compact cylinder |     |
| 572705 | ADN-63-40-I-PPS-A | compact cylinder |     |
| 572715 | ADN-63-50-A-PPS-A | compact cylinder |     |
| 572706 | ADN-63-50-I-PPS-A | compact cylinder |     |
| 536353 | ADN-80-10-A-P-A   | compact cylinder |     |
| 536363 | ADN-80-10-I-P-A   | compact cylinder |     |
| 536355 | ADN-80-20-A-P-A   | compact cylinder |     |

|        |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|-------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 536365 | ADN-80-20-I-P-A   | compact cylinder |      |
| 536357 | ADN-80-30-A-P-A   | compact cylinder |      |
| 536367 | ADN-80-30-I-P-A   | compact cylinder |      |
| 572732 | ADN-80-40-A-PPS-A | compact cylinder |      |
| 572723 | ADN-80-40-I-PPS-A | compact cylinder |      |
| 572733 | ADN-80-50-A-PPS-A | compact cylinder |      |
| 572724 | ADN-80-50-I-PPS-A | compact cylinder |      |
| 572734 | ADN-80-60-A-PPS-A | compact cylinder |      |
| 572725 | ADN-80-60-I-PPS-A | compact cylinder |      |

## 5.2 Compact, short stroke and flat cylinder ADVC

| Name                        | Order code | Remarks                                                                                                                                    | Documentation                                                                                                                                                                                                |
|-----------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Short-stroke cylinders ADVC | ADVC-...   | Diameter: 16, 20 mm<br>Stroke length: 5 ... 25 mm<br>Force: 68 ... 189 N<br>Double-acting, pushing<br>Position sensing<br>Fixed cushioning |  <a href="#">Documentation</a><br> |

| Part no. | Order code       | Name                  | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 188119   | ADVC-16-10-A-P-A | short-stroke cylinder |      |
| 188109   | ADVC-16-10-I-P-A | short-stroke cylinder |      |
| 188121   | ADVC-16-20-A-P-A | short-stroke cylinder |      |
| 188111   | ADVC-16-20-I-P-A | short-stroke cylinder |      |
| 188151   | ADVC-20-10-A-P-A | short-stroke cylinder |      |
| 188141   | ADVC-20-10-I-P-A | short-stroke cylinder |      |
| 188153   | ADVC-20-20-A-P-A | short-stroke cylinder |      |
| 188143   | ADVC-20-20-I-P-A | short-stroke cylinder |      |

### 5.3 Standard cylinder to ISO 15552, DSBC

| Name                      | Order code | Remarks                                                                                                                       | Documentation                                                                                                     |
|---------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Standard cylinder<br>DSBC | DSBC-...   | Diameter: 32, 40, 50, 63, 80, 100 mm<br>Force: 483...4712 N<br>Double-acting<br>Position sensing<br>self-adjusting cushioning |  <a href="#">Documentation</a> |

| Part no. | Order code          | Name         | Links |
|----------|---------------------|--------------|-------|
| 1376467  | DSBC-32-25-PPSA-N3  | ISO cylinder |       |
| 1376469  | DSBC-32-50-PPSA-N3  | ISO cylinder |       |
| 1376470  | DSBC-32-80-PPSA-N3  | ISO cylinder |       |
| 1376471  | DSBC-32-100-PPSA-N3 | ISO cylinder |       |
| 1376472  | DSBC-32-125-PPSA-N3 | ISO cylinder |       |
| 1376473  | DSBC-32-160-PPSA-N3 | ISO cylinder |       |
| 1376474  | DSBC-32-200-PPSA-N3 | ISO cylinder |       |
| 1376475  | DSBC-32-250-PPSA-N3 | ISO cylinder |       |
| 1376476  | DSBC-32-320-PPSA-N3 | ISO cylinder |       |
| 1376477  | DSBC-32-400-PPSA-N3 | ISO cylinder |       |
| 1376478  | DSBC-32-500-PPSA-N3 | ISO cylinder |       |
| 1376903  | DSBC-40-25-PPSA-N3  | ISO cylinder |       |
| 1376905  | DSBC-40-50-PPSA-N3  | ISO cylinder |       |
| 1376906  | DSBC-40-80-PPSA-N3  | ISO cylinder |       |
| 1376907  | DSBC-40-100-PPSA-N3 | ISO cylinder |       |
| 1376908  | DSBC-40-125-PPSA-N3 | ISO cylinder |       |
| 1376909  | DSBC-40-160-PPSA-N3 | ISO cylinder |       |
| 1376910  | DSBC-40-200-PPSA-N3 | ISO cylinder |       |
| 1376911  | DSBC-40-250-PPSA-N3 | ISO cylinder |       |
| 1376912  | DSBC-40-320-PPSA-N3 | ISO cylinder |       |
| 1376913  | DSBC-40-400-PPSA-N3 | ISO cylinder |       |
| 1376914  | DSBC-40-500-PPSA-N3 | ISO cylinder |       |
| 1376301  | DSBC-50-25-PPSA-N3  | ISO cylinder |       |
| 1376305  | DSBC-50-50-PPSA-N3  | ISO cylinder |       |
| 1376306  | DSBC-50-80-PPSA-N3  | ISO cylinder |       |
| 1376307  | DSBC-50-100-PPSA-N3 | ISO cylinder |       |
| 1376308  | DSBC-50-125-PPSA-N3 | ISO cylinder |       |
| 1376309  | DSBC-50-160-PPSA-N3 | ISO cylinder |       |
| 1376310  | DSBC-50-200-PPSA-N3 | ISO cylinder |       |
| 1376311  | DSBC-50-250-PPSA-N3 | ISO cylinder |       |
| 1376312  | DSBC-50-320-PPSA-N3 | ISO cylinder |       |
| 1376313  | DSBC-50-400-PPSA-N3 | ISO cylinder |       |

|         |                      |              |                                                                                       |
|---------|----------------------|--------------|---------------------------------------------------------------------------------------|
| 1376314 | DSBC-50-500-PPSA-N3  | ISO cylinder |    |
| 1383632 | DSBC-63-25-PPSA-N3   | ISO cylinder |    |
| 1383634 | DSBC-63-50-PPSA-N3   | ISO cylinder |    |
| 1383635 | DSBC-63-80-PPSA-N3   | ISO cylinder |    |
| 1383636 | DSBC-63-100-PPSA-N3  | ISO cylinder |    |
| 1383637 | DSBC-63-125-PPSA-N3  | ISO cylinder |    |
| 1383638 | DSBC-63-160-PPSA-N3  | ISO cylinder |    |
| 1383639 | DSBC-63-200-PPSA-N3  | ISO cylinder |    |
| 1383640 | DSBC-63-250-PPSA-N3  | ISO cylinder |    |
| 1383641 | DSBC-63-320-PPSA-N3  | ISO cylinder |    |
| 1383642 | DSBC-63-400-PPSA-N3  | ISO cylinder |    |
| 1383643 | DSBC-63-500-PPSA-N3  | ISO cylinder |    |
| 1383366 | DSBC-80-25-PPSA-N3   | ISO cylinder |    |
| 1383368 | DSBC-80-50-PPSA-N3   | ISO cylinder |    |
| 1383369 | DSBC-80-80-PPSA-N3   | ISO cylinder |   |
| 1383370 | DSBC-80-100-PPSA-N3  | ISO cylinder |  |
| 1383371 | DSBC-80-125-PPSA-N3  | ISO cylinder |  |
| 1383372 | DSBC-80-160-PPSA-N3  | ISO cylinder |  |
| 1383373 | DSBC-80-200-PPSA-N3  | ISO cylinder |  |
| 1383374 | DSBC-80-250-PPSA-N3  | ISO cylinder |  |
| 1383375 | DSBC-80-320-PPSA-N3  | ISO cylinder |  |
| 1383376 | DSBC-80-400-PPSA-N3  | ISO cylinder |  |
| 1383377 | DSBC-80-500-PPSA-N3  | ISO cylinder |  |
| 1384890 | DSBC-100-25-PPSA-N3  | ISO cylinder |  |
| 1384892 | DSBC-100-50-PPSA-N3  | ISO cylinder |  |
| 1384893 | DSBC-100-80-PPSA-N3  | ISO cylinder |  |
| 1384894 | DSBC-100-100-PPSA-N3 | ISO cylinder |  |
| 1384895 | DSBC-100-125-PPSA-N3 | ISO cylinder |  |
| 1384896 | DSBC-100-160-PPSA-N3 | ISO cylinder |  |
| 1384897 | DSBC-100-200-PPSA-N3 | ISO cylinder |  |
| 1384898 | DSBC-100-250-PPSA-N3 | ISO cylinder |  |
| 1384899 | DSBC-100-320-PPSA-N3 | ISO cylinder |  |
| 1384900 | DSBC-100-400-PPSA-N3 | ISO cylinder |  |
| 1384901 | DSBC-100-500-PPSA-N3 | ISO cylinder |  |

### 5.3.1 Linear guides FENG

| Name                        | Order code | Remarks                                                                                                                            | Documentation                                                                                                     |
|-----------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Guide units<br>FENG, metric | FENG-...   | For Diameter 32, 40, 50, 63, 80, 100 mm<br>Stroke length 10 ... 500 mm<br>Plain-bearing guide<br>Recirculating ball bearing guide. |  <a href="#">Documentation</a> |

| Part no. | Order code     | Name       | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|----------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 34493    | FENG-32-50-KF  | guide unit |                |
| 34494    | FENG-32-100-KF | guide unit |                |
| 34495    | FENG-32-160-KF | guide unit |                |
| 34496    | FENG-32-200-KF | guide unit |      |
| 150289   | FENG-32-250-KF | guide unit |      |
| 34497    | FENG-32-320-KF | guide unit |      |
| 150290   | FENG-32-400-KF | guide unit |      |
| 34498    | FENG-32-500-KF | guide unit |      |
| 34499    | FENG-40-50-KF  | guide unit |      |
| 34500    | FENG-40-100-KF | guide unit |      |
| 34501    | FENG-40-160-KF | guide unit |      |
| 34502    | FENG-40-200-KF | guide unit |      |
| 34503    | FENG-40-250-KF | guide unit |      |
| 34504    | FENG-40-320-KF | guide unit |      |
| 150291   | FENG-40-400-KF | guide unit |      |
| 34505    | FENG-40-500-KF | guide unit |      |
| 34506    | FENG-50-50-KF  | guide unit |      |
| 34507    | FENG-50-100-KF | guide unit |      |
| 34508    | FENG-50-160-KF | guide unit |      |
| 34509    | FENG-50-200-KF | guide unit |      |
| 34510    | FENG-50-250-KF | guide unit |      |
| 34511    | FENG-50-320-KF | guide unit |      |
| 150292   | FENG-50-400-KF | guide unit |      |
| 34512    | FENG-50-500-KF | guide unit |      |
| 34513    | FENG-63-50-KF  | guide unit |      |
| 34514    | FENG-63-100-KF | guide unit |      |
| 34515    | FENG-63-160-KF | guide unit |      |
| 34516    | FENG-63-200-KF | guide unit |      |
| 34517    | FENG-63-250-KF | guide unit |      |
| 34518    | FENG-63-320-KF | guide unit |      |
| 34519    | FENG-63-400-KF | guide unit |      |
| 34520    | FENG-63-500-KF | guide unit |      |

|       |                 |            |                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------|-----------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 34521 | FENG-80-50-KF   | guide unit |                |
| 34522 | FENG-80-100-KF  | guide unit |                |
| 34523 | FENG-80-160-KF  | guide unit |                |
| 34524 | FENG-80-200-KF  | guide unit |                |
| 34525 | FENG-80-250-KF  | guide unit |                |
| 34526 | FENG-80-320-KF  | guide unit |                |
| 34527 | FENG-80-400-KF  | guide unit |                |
| 34528 | FENG-80-500-KF  | guide unit |                |
| 34529 | FENG-100-50-KF  | guide unit |                |
| 34530 | FENG-100-100-KF | guide unit |                |
| 34531 | FENG-100-160-KF | guide unit |                |
| 34532 | FENG-100-200-KF | guide unit |                |
| 34533 | FENG-100-250-KF | guide unit |                |
| 34534 | FENG-100-320-KF | guide unit |                |
| 34535 | FENG-100-400-KF | guide unit |           |
| 34536 | FENG-100-500-KF | guide unit |      |

#### 5.4 Round cylinders to DIN ISO 6432, DSNU

| Name                    | Order code | Remarks                                                                                                                             | Documentation                                                                                                                                                                                                |
|-------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Round cylinders<br>DSNU | DSNU-...   | Diameter: 16, 20, 25 mm<br>Force: 51 ... 295 N<br>Double-acting<br>Position sensing<br>self-adjusting cushioning<br>Mounting flange |  <a href="#">Documentation</a><br> |

| Part no. | Order code        | Name         | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|-------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 559263   | DSNU-16-25-PPS-A  | ISO cylinder |      |
| 559265   | DSNU-16-50-PPS-A  | ISO cylinder |      |
| 559266   | DSNU-16-80-PPS-A  | ISO cylinder |      |
| 559267   | DSNU-16-100-PPS-A | ISO cylinder |      |
| 559268   | DSNU-16-125-PPS-A | ISO cylinder |      |
| 559269   | DSNU-16-160-PPS-A | ISO cylinder |      |
| 559270   | DSNU-16-200-PPS-A | ISO cylinder |      |
| 559271   | DSNU-20-25-PPS-A  | ISO cylinder |      |
| 559273   | DSNU-20-50-PPS-A  | ISO cylinder |      |
| 559274   | DSNU-20-80-PPS-A  | ISO cylinder |      |
| 559275   | DSNU-20-100-PPS-A | ISO cylinder |      |
| 559276   | DSNU-20-125-PPS-A | ISO cylinder |      |
| 559277   | DSNU-20-160-PPS-A | ISO cylinder |      |

|        |                   |              |                                                                                     |
|--------|-------------------|--------------|-------------------------------------------------------------------------------------|
| 559278 | DSNU-20-200-PPS-A | ISO cylinder |  |
| 559282 | DSNU-25-25-PPS-A  | ISO cylinder |  |
| 559284 | DSNU-25-50-PPS-A  | ISO cylinder |  |
| 559285 | DSNU-25-80-PPS-A  | ISO cylinder |  |
| 559286 | DSNU-25-100-PPS-A | ISO cylinder |  |
| 559287 | DSNU-25-125-PPS-A | ISO cylinder |  |
| 559288 | DSNU-25-160-PPS-A | ISO cylinder |  |
| 559289 | DSNU-25-200-PPS-A | ISO cylinder |  |

#### 5.4.1 Linear guides FEN

| Name                       | Order code | Remarks                                                                                                              | Documentation                                                                                                       |
|----------------------------|------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Guide units FEN,<br>metric | FEN-...    | For Diameter 16, 20, 25 mm<br>Stroke length 1 ... 250 mm<br>Plain-bearing guide<br>Recirculating ball bearing guide. |  <a href="#">Documentation</a> |

| Part no. | Order code     | Name       | Links                                                                                 |
|----------|----------------|------------|---------------------------------------------------------------------------------------|
| 19168    | FEN-12/16- -GF | guide unit |  |
| 33481    | FEN-12/16- -KF | guide unit |  |
| 19169    | FEN-20- -GF    | guide unit |  |
| 33482    | FEN-20- -KF    | guide unit |  |
| 19170    | FEN-25- -GF    | guide unit |  |
| 33483    | FEN-25- -KF    | guide unit |  |

## 5.5 Mechanical coupling DGC

| Name                 | Order code                                                                                                                                                                                                                                                                               | Remarks                                                                                                                              | Documentation                                                                                                     |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Linear drives<br>DGC | DGC-...<br><br>Defined stroke lengths [mm]:<br>125, 160, 200, 250, 320,<br>400, 500, 800, 1000<br><br>Defined guides:<br>Bearing guide = ...-GF-...<br>Recirculation ball bearing = ...-KF-...<br><br>Cushionings:<br>Pneumatic cushioning = ...-PPV-...<br>Shock absorber = ...-YSR-... | Diameter: 32, 63 mm<br>Stroke length: 125, 160, 200, 250, 320, 400, 500,<br>800, 1000 mm<br>Force: 30 ... 1870 N<br>Position sensing |  <a href="#">Documentation</a> |

| Part no. | Order code | Name         | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 532448   | DGC-32- -  | linear drive |      |
| 532451   | DGC-63- -  | linear drive |      |

## 5.6 Semi-rotary drives with rotary vane, DSM

| Name                  | Order code | Remarks                                                                                                               | Documentation                                                                                                       |
|-----------------------|------------|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Swivel modules<br>DSM | DSM-...    | Size 12, 16, 32, 40 mm<br>Torque 1,25..80 Nm<br>Swivel angle 0 ... 270°<br>Position sensing<br>Adjustable cushioning. |  <a href="#">Documentation</a> |

| Part no. | Order code        | Name              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|-------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 547572   | DSM-12-270-CC-A-B | semi-rotary drive |      |
| 566203   | DSM-12-270-P1-A-B | semi-rotary drive |      |
| 566205   | DSM-16-270-P1-A-B | semi-rotary drive |      |
| 547576   | DSM-16-270-CC-A-B | semi-rotary drive |      |
| 547584   | DSM-32-270-CC-A-B | semi-rotary drive |      |
| 566209   | DSM-32-270-P1-A-B | semi-rotary drive |      |
| 566211   | DSM-40-270-P1-A-B | semi-rotary drive |      |
| 547588   | DSM-40-270-CC-A-B | semi-rotary drive |      |

## 5.7 Semi-rotary drives with rack and pinion, DRRD

| Name                       | Order code | Remarks                                                                                                                                                              | Documentation                                                                                                                                                                                            |
|----------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Semi-rotary drives<br>DRRD | DRRD-...   | Size 16, 32, 40 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="#">Documentation</a><br> |

| Part no. | Order code         | Name              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|--------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1577238  | DRRD-16-180-FH-PA  | semi-rotary drive |                |
| 1644389  | DRRD-16-180-FH-Y9A | semi-rotary drive |                |
| 1578512  | DRRD-32-180-FH-PA  | semi-rotary drive |                |
| 1578518  | DRRD-32-180-FH-Y9A | semi-rotary drive |      |
| 1503269  | DRRD-40-180-FH-PA  | semi-rotary drive |      |
| 1526986  | DRRD-40-180-FH-Y9A | semi-rotary drive |      |

## 5.8 Drives with slide, DGSL

| Name                       | Order code | Remarks                                                                                                              | Documentation                                                                                                                                                                                                |
|----------------------------|------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mini slide DGSL,<br>metric | DGSL-...   | Size 12, 16, 20,<br>Force 17 ... 483 N<br>Position sensing<br>Fixed/adjustable cushioning<br>Ball bearing cage guide |  <a href="#">Documentation</a><br> |

| Part no. | Order code      | Name       | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|-----------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 543963   | DGSL-12-30-PA   | mini slide |      |
| 543977   | DGSL-12-30-Y3A  | mini slide |      |
| 543965   | DGSL-12-50-PA   | mini slide |      |
| 543979   | DGSL-12-50-Y3A  | mini slide |      |
| 543966   | DGSL-12-80-PA   | mini slide |      |
| 543980   | DGSL-12-80-Y3A  | mini slide |      |
| 543967   | DGSL-12-100-PA  | mini slide |      |
| 543981   | DGSL-12-100-Y3A | mini slide |      |
| 543985   | DGSL-16-30-PA   | mini slide |      |
| 543999   | DGSL-16-30-Y3A  | mini slide |      |

|        |                 |            |                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------|-----------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 543987 | DGSL-16-50-PA   | mini slide |           |
| 544001 | DGSL-16-50-Y3A  | mini slide |           |
| 543988 | DGSL-16-80-PA   | mini slide |           |
| 544002 | DGSL-16-80-Y3A  | mini slide |           |
| 543989 | DGSL-16-100-PA  | mini slide |           |
| 544003 | DGSL-16-100-Y3A | mini slide |           |
| 544007 | DGSL-20-30-PA   | mini slide |           |
| 544023 | DGSL-20-30-Y3A  | mini slide |           |
| 544009 | DGSL-20-50-PA   | mini slide |           |
| 544025 | DGSL-20-50-Y3A  | mini slide |           |
| 544010 | DGSL-20-80-PA   | mini slide |           |
| 544026 | DGSL-20-80-Y3A  | mini slide |           |
| 544011 | DGSL-20-100-PA  | mini slide |           |
| 544027 | DGSL-20-100-Y3A | mini slide |           |
| 544012 | DGSL-20-150-PA  | mini slide |           |
| 544028 | DGSL-20-150-Y3A | mini slide |      |

## 5.9 Drives with guide rods, DFM

| Name                         | Order code | Remarks                                                                                                                                                                                    | Documentation                                                                                                                                                                                                |
|------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Guided drives<br>DFM, metric | DFM-...    | Diameter 16, 32, 40, 50, 63 mm<br>Force 51 ... 4712 N<br>Position sensing<br>Fixed/adjustable cushioning<br>Plain-bearing guide<br>Recirculating ball bearing guide<br>Variants available. |  <a href="#">Documentation</a><br> |

| Part no. | Order code        | Name         | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|-------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 170834   | DFM-16-25-P-A-GF  | guided drive |      |
| 170909   | DFM-16-25-P-A-KF  | guided drive |      |
| 170837   | DFM-16-50-P-A-GF  | guided drive |      |
| 170912   | DFM-16-50-P-A-KF  | guided drive |      |
| 170838   | DFM-16-80-P-A-GF  | guided drive |      |
| 170913   | DFM-16-80-P-A-KF  | guided drive |      |
| 170839   | DFM-16-100-P-A-GF | guided drive |      |
| 170914   | DFM-16-100-P-A-KF | guided drive |      |
| 170855   | DFM-32-25-P-A-GF  | guided drive |      |
| 170930   | DFM-32-25-P-A-KF  | guided drive |      |
| 170858   | DFM-32-50-P-A-GF  | guided drive |      |
| 170933   | DFM-32-50-P-A-KF  | guided drive |      |

|        |                   |              |                                                                                       |
|--------|-------------------|--------------|---------------------------------------------------------------------------------------|
| 170859 | DFM-32-80-P-A-GF  | guided drive |    |
| 170934 | DFM-32-80-P-A-KF  | guided drive |    |
| 170860 | DFM-32-100-P-A-GF | guided drive |    |
| 170935 | DFM-32-100-P-A-KF | guided drive |    |
| 170861 | DFM-32-125-P-A-GF | guided drive |    |
| 170936 | DFM-32-125-P-A-KF | guided drive |    |
| 170862 | DFM-32-160-P-A-GF | guided drive |    |
| 170937 | DFM-32-160-P-A-KF | guided drive |    |
| 170863 | DFM-32-200-P-A-GF | guided drive |    |
| 170938 | DFM-32-200-P-A-KF | guided drive |    |
| 170864 | DFM-40-25-P-A-GF  | guided drive |    |
| 170939 | DFM-40-25-P-A-KF  | guided drive |    |
| 170865 | DFM-40-50-P-A-GF  | guided drive |    |
| 170940 | DFM-40-50-P-A-KF  | guided drive |  |
| 170866 | DFM-40-80-P-A-GF  | guided drive |  |
| 170941 | DFM-40-80-P-A-KF  | guided drive |  |
| 170867 | DFM-40-100-P-A-GF | guided drive |  |
| 170942 | DFM-40-100-P-A-KF | guided drive |  |
| 170868 | DFM-40-125-P-A-GF | guided drive |  |
| 170943 | DFM-40-125-P-A-KF | guided drive |  |
| 170869 | DFM-40-160-P-A-GF | guided drive |  |
| 170944 | DFM-40-160-P-A-KF | guided drive |  |
| 170870 | DFM-40-200-P-A-GF | guided drive |  |
| 170945 | DFM-40-200-P-A-KF | guided drive |  |
| 170871 | DFM-50-25-P-A-GF  | guided drive |  |
| 170946 | DFM-50-25-P-A-KF  | guided drive |  |
| 170872 | DFM-50-50-P-A-GF  | guided drive |  |
| 170947 | DFM-50-50-P-A-KF  | guided drive |  |
| 170873 | DFM-50-80-P-A-GF  | guided drive |  |
| 170948 | DFM-50-80-P-A-KF  | guided drive |  |
| 170874 | DFM-50-100-P-A-GF | guided drive |  |
| 170949 | DFM-50-100-P-A-KF | guided drive |  |
| 170875 | DFM-50-125-P-A-GF | guided drive |  |
| 170950 | DFM-50-125-P-A-KF | guided drive |  |
| 170876 | DFM-50-160-P-A-GF | guided drive |  |
| 170951 | DFM-50-160-P-A-KF | guided drive |  |
| 170877 | DFM-50-200-P-A-GF | guided drive |  |
| 170952 | DFM-50-200-P-A-KF | guided drive |  |
| 170878 | DFM-63-25-P-A-GF  | guided drive |  |
| 170953 | DFM-63-25-P-A-KF  | guided drive |  |
| 170879 | DFM-63-50-P-A-GF  | guided drive |  |
| 170954 | DFM-63-50-P-A-KF  | guided drive |  |
| 170880 | DFM-63-80-P-A-GF  | guided drive |  |
| 170955 | DFM-63-80-P-A-KF  | guided drive |  |

|        |                   |              |                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|-------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 170881 | DFM-63-100-P-A-GF | guided drive |      |
| 170956 | DFM-63-100-P-A-KF | guided drive |      |
| 170882 | DFM-63-125-P-A-GF | guided drive |      |
| 170957 | DFM-63-125-P-A-KF | guided drive |      |
| 170883 | DFM-63-160-P-A-GF | guided drive |      |
| 170958 | DFM-63-160-P-A-KF | guided drive |      |
| 170884 | DFM-63-200-P-A-GF | guided drive |      |
| 170959 | DFM-63-200-P-A-KF | guided drive |      |

## 5.10 Stopper cylinders, DFSP

| Name                      | Order code | Remarks                                                                                                                                                                                 | Documentation                                                                                                                                                                                              |
|---------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Stopper cylinders<br>DFSP | DFSP-...   | Diameter 20, 32, 40, 50 mm<br>Permissible impact force on the advanced piston<br>rod 880 ... 6280 N<br>Position sensing<br>Fixed cushioning<br>Variants: trunnion, roller, non-rotating |  <a href="#">Documentation</a><br> |

| Part no. | Order code       | Name             | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 576084   | DFSP-20-10-DF-PA | stopper cylinder |      |
| 576075   | DFSP-20-10-DS-PA | stopper cylinder |      |
| 576086   | DFSP-20-20-DF-PA | stopper cylinder |      |
| 576077   | DFSP-20-20-DS-PA | stopper cylinder |      |
| 576109   | DFSP-32-20-DF-PA | stopper cylinder |      |
| 576100   | DFSP-32-20-DS-PA | stopper cylinder |      |
| 576132   | DFSP-40-20-DF-PA | stopper cylinder |      |
| 576123   | DFSP-40-20-DS-PA | stopper cylinder |      |
| 576158   | DFSP-50-30-DF-PA | stopper cylinder |      |
| 576149   | DFSP-50-30-DS-PA | stopper cylinder |      |

## 5.11 Foot Mounting components for drive units HBN, HNC, HNA

| Name           | Order code                    | Remarks                            | Documentation                                                                                                                                                                                            |
|----------------|-------------------------------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Foot mountings | HBN-...<br>HNC-...<br>HNA-... | Foot mountings for various drives. |  <a href="#">Documentation</a><br> |

| Part no. | Order code  | Name          | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|-------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5125     | HBN-12/16X1 | foot mounting |                |
| 5127     | HBN-20/25X1 | foot mounting |                |
| 174369   | HNC-32      | foot mounting |                |
| 174370   | HNC-40      | foot mounting |           |
| 174371   | HNC-50      | foot mounting |      |
| 174372   | HNC-63      | foot mounting |      |
| 174373   | HNC-80      | foot mounting |      |
| 174374   | HNC-100     | foot mounting |      |
| 537238   | HNA-16      | foot mounting |      |
| 537239   | HNA-32      | foot mounting |      |
| 537240   | HNA-40      | foot mounting |      |
| 537241   | HNA-50      | foot mounting |      |
| 537242   | HNA-63      | foot mounting |      |
| 537243   | HNA-80      | foot mounting |      |

## 5.12 Flange mountings FBN,

| Name             | Order code | Remarks                    | Documentation                                                                                                                                                                                                |
|------------------|------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flange mountings | FBN-...    | Flange mountings for DSNU. |  <a href="#">Documentation</a><br> |

| Part no. | Order code | Name            | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5130     | FBN-12/16  | flange mounting |      |
| 5131     | FBN-20/25  | flange mounting |      |

### 5.13 Flange mountings FNC

| Name             | Order code | Remarks                              | Documentation                                                                                                         |
|------------------|------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Flange mountings | FNC-...    | Flange mountings for various drives. | <a href="#">PDF Documentation</a>  |

| Part no. | Order code | Name            | Links                                                                            |
|----------|------------|-----------------|----------------------------------------------------------------------------------|
| 174375   | FNC-16     | flange mounting | <a href="#">3D</a> <a href="#">CAD</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 174376   | FNC-32     | flange mounting | <a href="#">3D</a> <a href="#">CAD</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 174377   | FNC-40     | flange mounting | <a href="#">3D</a> <a href="#">CAD</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 174378   | FNC-50     | flange mounting | <a href="#">3D</a> <a href="#">CAD</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 174379   | FNC-63     | flange mounting | <a href="#">3D</a> <a href="#">CAD</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 174380   | FNC-80     | flange mounting | <a href="#">3D</a> <a href="#">CAD</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 174381   | FNC-100    | flange mounting | <a href="#">3D</a> <a href="#">CAD</a> <a href="#">PDF</a> <a href="#">Image</a> |

### 5.14 Swivel flanges SNC, SNCB, SNCL, SNCS

| Name           | Order code                                  | Remarks                            | Documentation                                                                                                           |
|----------------|---------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Swivel flanges | SNC-...<br>SNCB-...<br>SNCL-...<br>SNCS-... | Swivel flanges for various drives. | <a href="#">PDF Documentation</a>  |

| Part no. | Order code | Name          | Links                                                                            |
|----------|------------|---------------|----------------------------------------------------------------------------------|
| 174383   | SNC-32     | swivel flange | <a href="#">3D</a> <a href="#">CAD</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 174384   | SNC-40     | swivel flange | <a href="#">3D</a> <a href="#">CAD</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 174385   | SNC-50     | swivel flange | <a href="#">3D</a> <a href="#">CAD</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 174386   | SNC-63     | swivel flange | <a href="#">3D</a> <a href="#">CAD</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 174387   | SNC-80     | swivel flange | <a href="#">3D</a> <a href="#">CAD</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 174388   | SNC-100    | swivel flange | <a href="#">3D</a> <a href="#">CAD</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 174390   | SNCB-32    | swivel flange | <a href="#">3D</a> <a href="#">CAD</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 174391   | SNCB-40    | swivel flange | <a href="#">3D</a> <a href="#">CAD</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 174392   | SNCB-50    | swivel flange | <a href="#">3D</a> <a href="#">CAD</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 174393   | SNCB-63    | swivel flange | <a href="#">3D</a> <a href="#">CAD</a> <a href="#">PDF</a> <a href="#">Image</a> |

|        |          |               |                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|----------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 174394 | SNCB-80  | swivel flange |      |
| 174395 | SNCB-100 | swivel flange |      |
| 537791 | SNCL-16  | swivel flange |      |
| 174404 | SNCL-32  | swivel flange |      |
| 174405 | SNCL-40  | swivel flange |      |
| 174406 | SNCL-50  | swivel flange |      |
| 174407 | SNCL-63  | swivel flange |      |
| 174408 | SNCL-80  | swivel flange |      |
| 174409 | SNCL-100 | swivel flange |      |
| 174397 | SNCS-32  | swivel flange |      |
| 174398 | SNCS-40  | swivel flange |      |
| 174399 | SNCS-50  | swivel flange |      |
| 174400 | SNCS-63  | swivel flange |      |
| 174401 | SNCS-80  | swivel flange |      |
| 174402 | SNCS-100 | swivel flange |      |

## 5.15 Clevis feet LBN, LNG, LSNG

| Name                              | Order code                     | Remarks                                               | Documentation                                                                                                                                                                                                |
|-----------------------------------|--------------------------------|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Clevis feet,<br>trunnion supports | LBN-...<br>LNG-...<br>LSNG-... | Clevis foot and trunnion mountings for various drives |  <a href="#">Documentation</a><br> |

| Part no. | Order code | Name        | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6058     | LBN-12/16  | clevis foot |      |
| 6059     | LBN-20/25  | clevis foot |      |
| 33890    | LNG-32     | clevis foot |      |
| 33891    | LNG-40     | clevis foot |      |
| 33892    | LNG-50     | clevis foot |      |
| 33893    | LNG-63     | clevis foot |      |
| 33894    | LNG-80     | clevis foot |      |
| 31740    | LSNG-32    | clevis foot |      |
| 31741    | LSNG-40    | clevis foot |      |
| 31742    | LSNG-50    | clevis foot |      |
| 31743    | LSNG-63    | clevis foot |      |
| 31744    | LSNG-80    | clevis foot |      |
| 31745    | LSNG-100   | clevis foot |      |

## 5.16 Mounting components for sensors

| Name                                                  | Order code | Remarks                                                            | Documentation                                                                                                                                                                                            |
|-------------------------------------------------------|------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mounting components for proximity sensors and sensors | SMBR-...   | Mounting kits for proximity sensors and sensors on various drives. |  <a href="#">Documentation</a><br> |

| Part no. | Order code | Name         | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 175093   | SMBR-8-12  | mounting kit |                |
| 175094   | SMBR-8-16  | mounting kit |           |
| 175095   | SMBR-8-20  | mounting kit |      |
| 175096   | SMBR-8-25  | mounting kit |      |

## 5.17 Piston rod attachments SG, SGS, FK

### 5.17.1 Rod clevises SG

| Name         | Order code | Remarks | Documentation                                                                                                                                                                                                |
|--------------|------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rod clevises | SG-...     |         |  <a href="#">Documentation</a><br> |

| Part no. | Order code  | Name       | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|-------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6144     | SG-M10X1,25 | rod clevis |      |
| 6145     | SG-M12X1,25 | rod clevis |      |
| 6146     | SG-M16X1,5  | rod clevis |      |
| 6147     | SG-M20X1,5  | rod clevis |      |
| 3110     | SG-M6       | rod clevis |      |
| 3111     | SG-M8       | rod clevis |      |

### 5.17.2 Rod eyes SGS

| Name     | Order code | Remarks | Documentation                                                                                                                                                                                         |
|----------|------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rod eyes | SGS-...    |         |  <a href="#">Documentation</a>  |

| Part no. | Order code   | Name    | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|--------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9261     | SGS-M10X1,25 | rod eye |                |
| 9262     | SGS-M12X1,25 | rod eye |                |
| 9263     | SGS-M16X1,5  | rod eye |                |
| 9264     | SGS-M20X1,5  | rod eye |           |
| 9254     | SGS-M6       | rod eye |      |
| 9255     | SGS-M8       | rod eye |      |

### 5.17.3 Coupling pieces FK

| Name            | Order code | Remarks | Documentation                                                                                                                                                                                             |
|-----------------|------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Coupling pieces | FK-...     |         |  <a href="#">Documentation</a>  |

| Part no. | Order code  | Name                      | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|-------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6140     | FK-M10X1,25 | self-aligning rod coupler |      |
| 6141     | FK-M12X1,25 | self-aligning rod coupler |      |
| 6142     | FK-M16X1,5  | self-aligning rod coupler |      |
| 6143     | FK-M20X1,5  | self-aligning rod coupler |      |
| 2061     | FK-M6       | self-aligning rod coupler |      |
| 2062     | FK-M8       | self-aligning rod coupler |      |

## 5.18 Clamping elements

| Name                       | Order code | Remarks                                          | Documentation                                                                                                         |
|----------------------------|------------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Clamping units<br>KEC, KPE | KPE-...    | For round material 8, 10, 12, 16, 20, 25, 32 mm. | <a href="#">PDF Documentation</a>  |

| Part no. | Order code | Name          | Links                                                                            |
|----------|------------|---------------|----------------------------------------------------------------------------------|
| 178464   | KPE-8      | clamping unit | <a href="#">PDF</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">Image</a> |
| 178465   | KPE-10     | clamping unit | <a href="#">PDF</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">Image</a> |
| 178466   | KPE-12     | clamping unit | <a href="#">PDF</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">Image</a> |
| 178467   | KPE-16     | clamping unit | <a href="#">PDF</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">Image</a> |
| 178468   | KPE-20     | clamping unit | <a href="#">PDF</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">Image</a> |
| 178469   | KPE-25     | clamping unit | <a href="#">PDF</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">Image</a> |
| 178470   | KPE-32     | clamping unit | <a href="#">PDF</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">Image</a> |

## 6 Electromechanical drives

### 6.1 Linear drives and slides, ESBF

| Name                      | Order code | Remarks                                                                                                                                                                                | Documentation                                                                                                     |
|---------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Electric cylinder<br>ESBF | ESBF-...   | Size 32, 40, 50, 63, 80,<br>Stroke length 30 ... 1500 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="#">Documentation</a> |

| Part no. | Order code         | Name              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|--------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8022565  | ESBF-BS-32-100-10P | electric cylinder |                |
| 8022566  | ESBF-BS-32-200-10P | electric cylinder |           |
| 8022567  | ESBF-BS-32-300-10P | electric cylinder |      |
| 8022568  | ESBF-BS-32-400-10P | electric cylinder |      |
| 8022581  | ESBF-BS-40-100-16P | electric cylinder |      |
| 8022582  | ESBF-BS-40-200-16P | electric cylinder |      |
| 8022583  | ESBF-BS-40-300-16P | electric cylinder |      |
| 8022584  | ESBF-BS-40-400-16P | electric cylinder |      |
| 8022597  | ESBF-BS-50-100-20P | electric cylinder |      |
| 8022598  | ESBF-BS-50-200-20P | electric cylinder |      |
| 8022599  | ESBF-BS-50-300-20P | electric cylinder |      |
| 8022600  | ESBF-BS-50-400-20P | electric cylinder |      |
| 574096   | ESBF-BS-63-100-10P | electric cylinder |      |
| 574097   | ESBF-BS-63-200-10P | electric cylinder |      |
| 574098   | ESBF-BS-63-300-10P | electric cylinder |      |
| 574099   | ESBF-BS-63-400-10P | electric cylinder |      |
| 574111   | ESBF-BS-80-100-32P | electric cylinder |      |
| 574112   | ESBF-BS-80-200-32P | electric cylinder |      |
| 574113   | ESBF-BS-80-300-32P | electric cylinder |      |
| 574114   | ESBF-BS-80-400-32P | electric cylinder |      |

### 6.1.1 Linear guides, EAGF for ESBF

| Name                      | Order code | Remarks                                                                                                                                                                    | Documentation                                                                                                     |
|---------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Guide units EAGF for ESBF | EAGF-...   | Size 32, 40, 50, 63, 80<br>Stroke length 100 ... 400 mm<br>For protecting electric cylinders ESBF against torsion at high torque loads<br>Recirculating ball bearing guide |  <a href="#">Documentation</a> |

| Part no. | Order code         | Name       | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|--------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1725850  | EAGF-V2-KF-100-100 | guide unit |                |
| 1725851  | EAGF-V2-KF-100-200 | guide unit |                |
| 1725852  | EAGF-V2-KF-100-320 | guide unit |                |
| 1725853  | EAGF-V2-KF-100-400 | guide unit |                |
| 2782679  | EAGF-V2-KF-32-100  | guide unit |      |
| 2782818  | EAGF-V2-KF-32-200  | guide unit |      |
| 2782885  | EAGF-V2-KF-32-320  | guide unit |      |
| 2782923  | EAGF-V2-KF-32-400  | guide unit |      |
| 2782939  | EAGF-V2-KF-40-100  | guide unit |      |
| 2782976  | EAGF-V2-KF-40-200  | guide unit |      |
| 2783047  | EAGF-V2-KF-40-320  | guide unit |      |
| 2783080  | EAGF-V2-KF-40-400  | guide unit |      |
| 2783639  | EAGF-V2-KF-50-100  | guide unit |      |
| 2784152  | EAGF-V2-KF-50-200  | guide unit |      |
| 2784164  | EAGF-V2-KF-50-320  | guide unit |      |
| 2784184  | EAGF-V2-KF-50-400  | guide unit |      |
| 1725842  | EAGF-V2-KF-63-100  | guide unit |      |
| 1725843  | EAGF-V2-KF-63-200  | guide unit |      |
| 1725844  | EAGF-V2-KF-63-320  | guide unit |      |
| 1725845  | EAGF-V2-KF-63-400  | guide unit |      |
| 1725846  | EAGF-V2-KF-80-100  | guide unit |      |
| 1725847  | EAGF-V2-KF-80-200  | guide unit |      |
| 1725848  | EAGF-V2-KF-80-320  | guide unit |      |
| 1725849  | EAGF-V2-KF-80-400  | guide unit |      |

## 6.2 Linear drives and slides, EGC-TB

| Name                        | Order code | Remarks                                                                           | Documentation                                                                                                                                     |
|-----------------------------|------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Toothed belt axes<br>EGC-TB | EGC-...    | Size 50, 70, 80, 120, 185<br>Stroke length 50 ... 8500 mm<br>Force 50 ... 2500 N. | <a href="#">Catalogue</a><br><a href="#">Documentation</a><br> |

| Part no. | Order code               | Name              | Links                                                                                               |
|----------|--------------------------|-------------------|-----------------------------------------------------------------------------------------------------|
| 3012492  | EGC-70-300-TB-KF-0H-GK   | toothed belt axis | <a href="#">OK</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 3012493  | EGC-70-400-TB-KF-0H-GK   | toothed belt axis | <a href="#">OK</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 3012494  | EGC-70-500-TB-KF-0H-GK   | toothed belt axis | <a href="#">OK</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 3012495  | EGC-70-600-TB-KF-0H-GK   | toothed belt axis | <a href="#">OK</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 3012496  | EGC-70-800-TB-KF-0H-GK   | toothed belt axis | <a href="#">OK</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 3012497  | EGC-70-1000-TB-KF-0H-GK  | toothed belt axis | <a href="#">OK</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 3012498  | EGC-70-1200-TB-KF-0H-GK  | toothed belt axis | <a href="#">OK</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 3013354  | EGC-80-500-TB-KF-0H-GK   | toothed belt axis | <a href="#">OK</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 3013355  | EGC-80-600-TB-KF-0H-GK   | toothed belt axis | <a href="#">OK</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 3013356  | EGC-80-800-TB-KF-0H-GK   | toothed belt axis | <a href="#">OK</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 3013357  | EGC-80-1000-TB-KF-0H-GK  | toothed belt axis | <a href="#">OK</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 3013359  | EGC-80-1200-TB-KF-0H-GK  | toothed belt axis | <a href="#">OK</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 3013364  | EGC-120-400-TB-KF-0H-GK  | toothed belt axis | <a href="#">OK</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 3013365  | EGC-120-500-TB-KF-0H-GK  | toothed belt axis | <a href="#">OK</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 3013366  | EGC-120-600-TB-KF-0H-GK  | toothed belt axis | <a href="#">OK</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 3013367  | EGC-120-800-TB-KF-0H-GK  | toothed belt axis | <a href="#">OK</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 3013368  | EGC-120-1000-TB-KF-0H-GK | toothed belt axis | <a href="#">OK</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 3013369  | EGC-120-1200-TB-KF-0H-GK | toothed belt axis | <a href="#">OK</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">PDF</a> <a href="#">Image</a> |
| 3013370  | EGC-120-1500-TB-KF-0H-GK | toothed belt axis | <a href="#">OK</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">PDF</a> <a href="#">Image</a> |

### 6.3 Linear drives and slides, EGSL

| Name             | Order code | Remarks                                            | Documentation                                                                                                                                                                                         |
|------------------|------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mini slides EGSL | EGSL-...   | Size 35, 45, 55, 75<br>Stroke length 50 ... 300 mm |  <a href="#">Documentation</a>  |

| Part no. | Order code           | Name       | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|----------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 559335   | EGSL-BS-45-100-10P   | mini slide |                |
| 562225   | EGSL-BS-45-100-3P    | mini slide |                |
| 559336   | EGSL-BS-45-200-10P   | mini slide |                |
| 562226   | EGSL-BS-45-200-3P    | mini slide |           |
| 559337   | EGSL-BS-55-100-12.7P | mini slide |      |
| 562227   | EGSL-BS-55-100-5P    | mini slide |      |
| 559338   | EGSL-BS-55-200-12.7P | mini slide |      |
| 562228   | EGSL-BS-55-200-5P    | mini slide |      |
| 559339   | EGSL-BS-55-250-12.7P | mini slide |      |
| 562229   | EGSL-BS-55-250-5P    | mini slide |      |
| 562230   | EGSL-BS-75-100-10P   | mini slide |      |
| 559340   | EGSL-BS-75-100-20P   | mini slide |      |
| 562231   | EGSL-BS-75-200-10P   | mini slide |      |
| 559341   | EGSL-BS-75-200-20P   | mini slide |      |
| 562232   | EGSL-BS-75-300-10P   | mini slide |      |
| 559342   | EGSL-BS-75-300-20P   | mini slide |      |

### 6.4 Semi-rotary drives, ERMO

| Name                     | Order code | Remarks                                                                             | Documentation                                                                                                                                                                                             |
|--------------------------|------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rotary actuators<br>ERMO | ERMO-...   | Size 12, 16, 25, 32<br>Max. driving torque 0.15 ... 5 Nm<br>Infinite rotation angle |  <a href="#">Documentation</a>  |

| Part no. | Order code   | Name         | Links                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------|--------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3008525  | ERMO-12-ST-E | Rotary drive |      |
| 3008526  | ERMO-16-ST-E | Rotary drive |      |
| 3008527  | ERMO-25-ST-E | Rotary drive |      |
| 3008528  | ERMO-32-ST-E | Rotary drive |      |

## 6.5 Mounting parts for motor assembly EAMM

| Name                         | Order code                                                    | Remarks                                               | Documentation                                                                                                                                                                                                                                                                                                              |
|------------------------------|---------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EAMM axial and parallel kits | EAMM-...<br><br>Must be configured according to the use case. | Axial and parallel kits for electromechanical drives. |  <a href="#">Catalogue</a><br> <a href="#">Documentation</a><br> |

## 6.6 Mounting attachments

| Name                           | Order code          | Remarks                              | Documentation                                                                                                                                                                                                |
|--------------------------------|---------------------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Profile mountings<br>EAHF, MUE | EAHF-...<br>MUE-... | Profile mountings for various drives |  <a href="#">Documentation</a><br> |

| Part no. | Order code       | Name             | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1170211  | EAHF-G1-35-P     | profile mounting |      |
| 1168859  | EAHF-G1-45-P     | profile mounting |      |
| 2410274  | EAHF-L5-120-P    | central support  |      |
| 3535189  | EAHF-L5-150-P    | central support  |      |
| 2349256  | EAHF-L5-70-P     | central support  |      |
| 3535188  | EAHF-L5-80-P     | central support  |      |
| 2838839  | EAHF-V2-32/40-P  | profile mounting |      |
| 1547781  | EAHF-V2-50/63-P  | profile mounting |      |
| 1547780  | EAHF-V2-80/100-P | profile mounting |      |
| 562238   | MUE-45           | profile mounting |      |
| 558042   | MUE-50           | profile mounting |      |
| 558043   | MUE-70/80        | profile mounting |      |
| 558044   | MUE-120/185      | profile mounting |      |

## 7 Motors and controllers

### 7.1 Servo motors, EMMT-AS

| Name                    | Order code | Remarks                                                                                                                          | Documentation                                                                                                 |
|-------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Servo motors<br>EMMT-AS | EMMT-...   | Size 60, 80, 100<br>Torque 0.6 ... 10,4 Nm<br>Voltage 325 ... 565 V DC<br>Nominal current 1.4 ... 7 A<br>Single cable technology |  <a href="#">Catalogue</a> |

| Part no. | Order code          | Name        | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|---------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5242217  | EMMT-AS-60-L-HS-RM  | servo motor |           |
| 5242219  | EMMT-AS-60-L-HS-RMB | servo motor |      |
| 5242209  | EMMT-AS-60-M-HS-RM  | servo motor |      |
| 5242211  | EMMT-AS-60-M-HS-RMB | servo motor |      |
| 5242201  | EMMT-AS-60-S-HS-RM  | servo motor |      |
| 5242203  | EMMT-AS-60-S-HS-RMB | servo motor |      |

### 7.2 Stepper motors, EMMS-ST

| Name                     | Order code | Remarks                                                                                                                                                           | Documentation                                                                                                       |
|--------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| EMMS-ST<br>stepper motor | EMMS-...   | Size 28, 42, 57, 87<br>Holding torque 0.09 ... 8.6 Nm<br>Voltage 24 ... 72 V DC<br>Nominal current 1.4 ... 9.5 A<br>Suitable motor cable<br>Suitable motor flange |  <a href="#">Documentation</a> |

| Part no. | Order code          | Name          | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|---------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1430663  | EMMS-ST-28-L-SE     | stepper motor |      |
| 1451382  | EMMS-ST-28-L-SEB    | stepper motor |      |
| 1370473  | EMMS-ST-42-S-SEB-G2 | stepper motor |      |
| 1370471  | EMMS-ST-42-S-SE-G2  | stepper motor |      |
| 1370481  | EMMS-ST-57-M-SEB-G2 | stepper motor |      |
| 1370479  | EMMS-ST-57-M-SE-G2  | stepper motor |      |
| 1370477  | EMMS-ST-57-S-SEB-G2 | stepper motor |      |
| 1370475  | EMMS-ST-57-S-SE-G2  | stepper motor |      |
| 1370489  | EMMS-ST-87-M-SEB-G2 | stepper motor |      |

|         |                    |               |                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------|--------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1370487 | EMMS-ST-87-M-SE-G2 | stepper motor |      |
|---------|--------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 7.3 Gear units, EMGA

| Name            | Order code | Remarks                                                                                                                                                       | Documentation                                                                                                                                                                                            |
|-----------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Gear units EMGA | EMGA-...   | Low backlash planetary gear unit for electromechanical drives<br>Gear ratio $i = 3$ and $5$ , in stock<br>Life-time lubrication<br>Degree of protection: IP54 |  <a href="#">Documentation</a><br> |

### 7.4 Controller CMMT-AS for servo motors

| Name                | Order code | Remarks                                                                                        | Documentation                                                                                                                                                                                           |
|---------------------|------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Servo drive CMMT-AS | CMMT-...   | Nominal voltage: 230 V AC<br>Nominal current: 2.8 ... 16.8 A<br>Nominal power: 350 ... 2000 VA |  <a href="#">Catalogue</a><br> |

| Part no. | Order code              | Name        | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|-------------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8143165  | CMMT-AS-C2-11A-P3-MP-S1 | servo drive |      |
| 8143163  | CMMT-AS-C2-3A-MP-S1     | servo drive |      |
| 8143166  | CMMT-AS-C3-11A-P3-MP-S1 | servo drive |      |
| 8143164  | CMMT-AS-C4-3A-MP-S1     | servo drive |      |
| 8143167  | CMMT-AS-C5-11A-P3-MP-S1 | servo drive |      |

### 7.5 Controller for stepper motors, CMMT-ST

| Name                | Order code | Remarks                                                                   | Documentation                                                                                                                                                                                            |
|---------------------|------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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> |

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

## 7.6 Electrical peripherals, CTEU

| Name                                                | Order code | Remarks                                                                                                | Documentation                                                                                                     |
|-----------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Fieldbus modules<br>CTEU for Valve<br>Terminal VTUG | CTEU-...   | Fieldbus module for valve modules VTUG,<br>Bus protocols:<br>- PROFINET<br>is mounted on IO-Link modul |  <a href="#">Documentation</a> |

| Part no. | Order code | Name     | Links                                                                               |
|----------|------------|----------|-------------------------------------------------------------------------------------|
| 2201471  | CTEU-PN    | bus node |  |

## 7.7 Electronic controllers CAPC

| Name        | Order code | Remarks                                                                          | Documentation                                                                                                       |
|-------------|------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Accessories | CAPC-...   | Bus connection<br>Earthing kit<br>Power supply unit<br>Converter<br>Cable, plugs |  <a href="#">Documentation</a> |

| Part no. | Order code    | Name                      | Links                                                                                 |
|----------|---------------|---------------------------|---------------------------------------------------------------------------------------|
| 570042   | CAPC-F1-E-M12 | electrical connection box |  |

## 7.8 Electrical peripherals, CTEL

| Name                            | Order code | Remarks                                 | Documentation                                                                                                       |
|---------------------------------|------------|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| For installation<br>system CTEL | CTSL-...   | 16-fold input module with M8 connection |  <a href="#">Documentation</a> |

| Part no. | Order code      | Name         | Links                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------|-----------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1387363  | CTSL-D-16E-M8-3 | input module |      |

## 7.9 Connecting cables for CAPC, CTCL

| Name | Order code | Remarks   | Documentation                                                                                                                                                                                            |
|------|------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NEBU | NEBU-...   | M12 plugs |  <a href="#">Documentation</a><br> |

| Part no. | Order code           | Name                       | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|----------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 541330   | NEBU-M12G5-K-2.5-LE5 | cable, straight plug, 2,5m |      |
| 541331   | NEBU-M12G5-K-5-LE5   | cable, straight plug, 5m   |      |
| 567843   | NEBU-M12W5-K-2.5-LE5 | cable, Angle plug, 2,5m    |      |
| 567844   | NEBU-M12W5-K-5-LE5   | cable, Angle plug, 5m      |      |

## 7.10 Connecting cables for motors EMMT-AS

| Name | Order code | Remarks                                       | Documentation                                                                                                       |
|------|------------|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| NEBM | NEBM-...   | For servo motor EMMT-Cable length 5 ... 20 m. |  <a href="#">Documentation</a> |

| Part no. | Order code                     | Name              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|--------------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5251373  | NEBM-M23G15-EH- -Q7N-R3LEG14   | motor cable       |      |
| 5251377  | NEBM-M23G15-EH-10-Q7N-R3LEG14  | motor cable,10m   |      |
| 5251378  | NEBM-M23G15-EH-15-Q7N-R3LEG14  | motor cable,15m   |      |
| 5251374  | NEBM-M23G15-EH-2.5-Q7N-R3LEG14 | motor cable, 2,5m |      |
| 5251379  | NEBM-M23G15-EH-20-Q7N-R3LEG14  | motor cable, 20m  |      |
| 5251375  | NEBM-M23G15-EH-5-Q7N-R3LEG14   | motor cable, 5m   |      |
| 5251376  | NEBM-M23G15-EH-7.5-Q7N-R3LEG14 | motor cable, 7,5m |      |

## 7.11 Connecting cables for motors EMMS-ST

| Name | Order code | Remarks                                               | Documentation                                                                                                     |
|------|------------|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| NEBM | NEBM-...   | For servo motor EMMS-ST-<br>Cable length 5 ..... 10 m |  <a href="#">Documentation</a> |

| Part no. | Order code              | Name          | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|-------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1451591  | NEBM-M12G8-E- -LE8      | encoder cable |                |
| 1451586  | NEBM-M12G8-E-1.5-LE8    | encoder cable |                |
| 1451590  | NEBM-M12G8-E-10-LE8     | encoder cable |                |
| 1451587  | NEBM-M12G8-E-2.5-LE8    | encoder cable |                |
| 1451588  | NEBM-M12G8-E-5-LE8      | encoder cable |                |
| 1451589  | NEBM-M12G8-E-7-LE8      | encoder cable |                |
| 1451679  | NEBM-M12W8-E- -LE8      | encoder cable |                |
| 1451674  | NEBM-M12W8-E-1.5-LE8    | encoder cable |           |
| 1451678  | NEBM-M12W8-E-10-LE8     | encoder cable |      |
| 1451675  | NEBM-M12W8-E-2.5-LE8    | encoder cable |      |
| 1451676  | NEBM-M12W8-E-5-LE8      | encoder cable |      |
| 1451677  | NEBM-M12W8-E-7-LE8      | encoder cable |      |
| 1450948  | NEBM-S1W15-E- -Q7-LE6   | motor cable   |      |
| 1450943  | NEBM-S1W15-E-1.5-Q7-LE6 | motor cable   |      |
| 1450947  | NEBM-S1W15-E-10-Q7-LE6  | motor cable   |      |
| 1450944  | NEBM-S1W15-E-2.5-Q7-LE6 | motor cable   |      |
| 1450945  | NEBM-S1W15-E-5-Q7-LE6   | motor cable   |      |
| 1450946  | NEBM-S1W15-E-7-Q7-LE6   | motor cable   |      |
| 1450741  | NEBM-S1W9-E- -Q5-LE6    | motor cable   |      |
| 1450736  | NEBM-S1W9-E-1.5-Q5-LE6  | motor cable   |      |
| 1450740  | NEBM-S1W9-E-10-Q5-LE6   | motor cable   |      |
| 1450737  | NEBM-S1W9-E-2.5-Q5-LE6  | motor cable   |      |
| 1450738  | NEBM-S1W9-E-5-Q5-LE6    | motor cable   |      |
| 1450739  | NEBM-S1W9-E-7-Q5-LE6    | motor cable   |      |

## 8 Grippers

### 8.1 Parallel grippers, HGPT

| Name                     | Order code | Remarks                                                                                                                                                               | Documentation                                                                                                     |
|--------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Parallel gripper<br>HGPT | HGPT-...   | Size 16, 20, 25, 35, 40, 50, 63, 80<br>Stroke length 3 ... 20 mm per gripper jaw<br>Force 53 ... 3150 N per gripper jaw<br>Position sensing<br>Sealing air connection |  <a href="#">Documentation</a> |

| Part no. | Order code  | Name             | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|-------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 560192   | HGPT-16-A-B | parallel gripper |                |
| 560198   | HGPT-20-A-B | parallel gripper |           |
| 560204   | HGPT-25-A-B | parallel gripper |      |
| 560210   | HGPT-35-A-B | parallel gripper |      |
| 560216   | HGPT-40-A-B | parallel gripper |      |
| 560222   | HGPT-50-A-B | parallel gripper |      |
| 560228   | HGPT-63-A-B | parallel gripper |      |
| 560234   | HGPT-80-A-B | parallel gripper |      |

### 8.2 Parallel grippers, HGPL

| Name                     | Order code | Remarks                                                                                                                           | Documentation                                                                                                       |
|--------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Parallel gripper<br>HGPL | HGPL-...   | Size 14, 25, 40, 63 mm<br>Stroke length 40 ... 150 mm per gripper jaw<br>Force 79 ... 1371 N per gripper jaw<br>Position sensing. |  <a href="#">Documentation</a> |

| Part no. | Order code     | Name             | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|----------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3361479  | HGPL-14-20-A-B | parallel gripper |      |
| 3361480  | HGPL-14-40-A-B | parallel gripper |      |
| 3361481  | HGPL-14-60-A-B | parallel gripper |      |
| 3361483  | HGPL-25-20-A-B | parallel gripper |      |
| 3361484  | HGPL-25-40-A-B | parallel gripper |      |
| 3361485  | HGPL-25-60-A-B | parallel gripper |      |
| 3361487  | HGPL-40-20-A-B | parallel gripper |      |

|         |                 |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------|-----------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3361488 | HGPL-40-40-A-B  | parallel gripper |      |
| 3361489 | HGPL-40-60-A-B  | parallel gripper |      |
| 3361493 | HGPL-63-100-A-B | parallel gripper |      |
| 3361492 | HGPL-63-60-A-B  | parallel gripper |      |

### 8.3 Three-point grippers, HGDT

| Name                     | Order code | Remarks                                                                                                                         | Documentation                                                                                                                                                                                             |
|--------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Three-point gripper HGDT | HGDT-...   | Size 25, 35, 40, 50, 63<br>Stroke length 3 ... 10 mm per gripper jaw<br>Force: 69 ... 864 N per gripper jaw<br>Position sensing |  <a href="#">Documentation</a><br> |

| Part no. | Order code | Name                | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 540859   | HGDT-25-A  | three-point gripper |      |
| 540862   | HGDT-35-A  | three-point gripper |      |
| 540865   | HGDT-40-A  | three-point gripper |      |
| 540868   | HGDT-50-A  | three-point gripper |      |
| 540871   | HGDT-63-A  | three-point gripper |      |

### 8.4 Radial grippers, HGRT

| Name                | Order code | Remarks                                                                                                                                                | Documentation                                                                                                                                                                                                |
|---------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Radial gripper HGRT | HGRT-...   | Size 16, 20, 25, 32, 40, 50<br>Opening angle 180°<br>Total gripping torque 1.8 ... 127 Nm<br>Position sensing<br>With or without gripping force backup |  <a href="#">Documentation</a><br> |

| Part no. | Order code | Name           | Links                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------|------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 563904   | HGRT-16-A  | radial gripper |      |
| 563906   | HGRT-20-A  | radial gripper |      |
| 563908   | HGRT-25-A  | radial gripper |      |
| 563910   | HGRT-32-A  | radial gripper |      |
| 563912   | HGRT-40-A  | radial gripper |      |
| 563914   | HGRT-50-A  | radial gripper |      |

## 9 Sensors

### 9.1 For T-slot

| Name     | Order code | Remarks                                                                       | Documentation                                                                                                                                                                                            |
|----------|------------|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SMT-8M-A | SMT-...    | Voltage: 5 ... 30 V DC<br>Plug connection: M8,<br>Electric<br>Contactless PNP |  <a href="#">Documentation</a><br> |

| Part no. | Order code                | Name             | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|---------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 574334   | SMT-8M-A-PS-24V-E-0,3-M8D | proximity sensor |      |

#### 9.1.1 Mounting kit SAMH-S for SMT-8M-A

| Name                                                                                                                                                                                                                              | Order code | Remarks                                                                                                                                                                                               | Documentation                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Tamper-proof mounting of proximity sensors of the type SMT-8M-A</p> <p>These mounting kits fulfil the applicable requirements of EN ISO 13849-2 for mechanical systems: tamper-proof, captive components, positive-locking</p> | SAMH-...   | <p>Extensive range of accessories for every application.</p> <ul style="list-style-type: none"> <li>- Mounting kits</li> <li>- Sensor brackets</li> <li>- Clips</li> <li>- Position marker</li> </ul> |  <a href="#">Documentation</a><br> |

| Part no. | Order code     | Name         | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|----------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 575815   | SAMH-S-N8-S-MK | mounting kit |      |

## 9.2 For round groove

| Name    | Order code | Remarks                                                                      | Documentation                                                                                                     |
|---------|------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| SMT-10M | SMT-...    | Voltage: 24 V DC<br>Connection plug M8,<br>Electric<br>- Non-contacting PNP, |  <a href="#">Documentation</a> |

| Part no. | Order code                 | Name             | Links                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------|----------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 551375   | SMT-10M-PS-24V-E-0,3-L-M8D | proximity sensor |      |

## 9.3 Position sensors SDAT

| Name                       | Order code | Remarks                                                                                                                                                                  | Documentation                                                                                                       |
|----------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Position transmitters SDAT | SDAT-...   | Sensing ranges 50, 80, 100, 125, 150 mm<br>Analogue output 0 ... 20 mA<br>Programmable IO-Link®/switching output<br>Electrical connection M8<br>Reproducibility < 0.1 mm |  <a href="#">Documentation</a> |

| Part no. | Order code                   | Name                 | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1531267  | SDAT-MHS-M100-1L-SA-E-0.3-M8 | position transmitter |      |
| 1531268  | SDAT-MHS-M125-1L-SA-E-0.3-M8 | position transmitter |      |
| 1531269  | SDAT-MHS-M160-1L-SA-E-0.3-M8 | position transmitter |      |
| 1531265  | SDAT-MHS-M50-1L-SA-E-0.3-M8  | position transmitter |      |
| 1531266  | SDAT-MHS-M80-1L-SA-E-0.3-M8  | position transmitter |      |

## 9.4 Position sensors SDAS

| Name                      | Order code | Remarks                                                                                                             | Documentation                                                                                                       |
|---------------------------|------------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Position transmitter SDAS | SDAS-...   | Programmable IO-Link®/switching output<br>Typical sensing range 40 mm<br>Electrical connection 30 cm cable with M8, |  <a href="#">Documentation</a> |

| Part no. | Order code                       | Name                 | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|----------------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8063974  | SDAS-MHS-M40-1L-PNLK-PN-E-0.3-M8 | position transmitter |      |

## 9.5 Pressure and vacuum sensors Compact, SPAE

| Name                  | Order code | Remarks                                                                                                                                                                                  | Documentation                                                                                                                                                                                            |
|-----------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pressure sensors SPAE | SPAE-...   | Pressure sensor<br>Vacuum sensor<br>Pressure measuring range -1 to 10 bar<br>Voltage 18 ... 30 V DC<br>Switching output PNP/NPN, switchable<br>Normally closed/normally open, switchable |  <a href="#">Documentation</a><br> |

| Part no. | Order code             | Name            | Links                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------|------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8001448  | SPAE-P10R-Q4-PNLK-2.5K | pressure sensor |      |
| 8001443  | SPAE-V1R-Q4-PNLK-2.5K  | pressure sensor |      |

## 9.6 Pressure and vacuum sensors with Display, SPAU

| Name                  | Order code | Remarks                                                                                                                                                                                                                                  | Documentation                                                                                                                                                                                                |
|-----------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pressure sensors SPAU | SPAU-...   | Pressure measuring range -1 to 10 bar<br>Voltage 20 ...30 V DC<br>Switching output 2x PNP or 2x NPN selectable<br>Electrical output 0.1 ... 10 V, 4 ... 20 mA, IO Link<br>Pneumatic connection G1/8,<br>Pressure switch<br>Vacuum switch |  <a href="#">Documentation</a><br> |

All sensors shall be integrated in the PLC to visualize and monitor the nominal and actual pressure. The sensor shall be configured to monitor a pressure range of min and max pressure level (called window mode).

*Switch point mode (Fctr) = Window mode*

The sensor must be configured from the supplier with the minimum and maximum pressure level. The backlight control of the sensor display must be setup to show all pressure that is in the range with "blue" backlight. All deviations must be visualized with "red" backlight.

*Backlight control (COLR)= red if Out = 0*

| Part no. | Order code                          | Name                      | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|-------------------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8001204  | SPAU-P10R-T-G18M-L-PNLK-PNVBA-M12D  | pressure sensor 0-10 Bar  |      |
| 8001230  | SPAU-P10R-W-G18FD-L-PNLK-PNVBA-M12U | pressure sensor 0-10 Bar  |      |
| 8001234  | SPAU-V1R-W-G18FD-L-PNLK-PNVBA-M12U  | pressure sensor -1 -0 Bar |      |

## 10 Pneumatic fittings system

### 10.1 Standard tubing, PUN-H

| Name             | Order code                                                                                                                                                                                                              | Remarks                                                                                                                                                               | Documentation                                                                                                         |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| PUN-H, PUN-H-DUO | PUN-...<br><br>Color:<br>...-BL = blue (Standard)<br>...-SW = black (Vacuum)<br>...-RT = red (Safety)<br><br>Red color must be used, if there is still preasure in the tube/system although the safety fences are open! | Outside diameter: 4 ... 16 mm<br>Temperature-dependent operating pressure: - 0.95 ... 10 bar<br>Ambient temperature: -35 ... 60° C<br>- Compressed air, Vacuum, Water |  <a href="#">PDF Documentation</a> |

| Part no. | Order code      | Name           | Links                                                                                 |
|----------|-----------------|----------------|---------------------------------------------------------------------------------------|
| 197383   | PUN-H-4X0,75-BL | plastic tubing |  |
| 558285   | PUN-H-4X0,75-RT | plastic tubing |  |
| 197390   | PUN-H-4X0,75-SW | plastic tubing |  |
| 197384   | PUN-H-6X1-BL    | plastic tubing |  |
| 558286   | PUN-H-6X1-RT    | plastic tubing |  |
| 197391   | PUN-H-6X1-SW    | plastic tubing |  |
| 197385   | PUN-H-8X1,25-BL | plastic tubing |  |
| 197392   | PUN-H-8X1,25-SW | plastic tubing |  |
| 197386   | PUN-H-10X1,5-BL | plastic tubing |  |
| 197387   | PUN-H-12X2-BL   | plastic tubing |  |
| 197388   | PUN-H-16X2,5-BL | plastic tubing |  |

## 11 Push-in mini fittings, QSM

| Name                                 | Order code                      | Remarks                                                                                                                                                                                | Documentation                                                                                                           |
|--------------------------------------|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Push-in fittings<br>QSM, mini series | QSM-...<br>QSML-...<br>QSMT-... | Connection M3, M5,<br>For outside tubing diameter 4, 6 mm<br>Threaded connection<br>- Metric thread with sealing ring<br>Suitable for vacuum<br>Push-in fittings<br>Push-in connectors |  <a href="#">PDF Documentation</a> |

| Part no. | Order code | Name                | Links                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------|------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 153324   | QSM-4      | push-in connector   |      |
| 153325   | QSM-6      | push-in connector   |      |
| 153327   | QSM-6-4    | push-in connector   |      |
| 153329   | QSM-6H-4   | push-in connector   |      |
| 153344   | QSML-4     | push-in L-connector |      |
| 153345   | QSML-6     | push-in L-connector |      |
| 153333   | QSML-M5-4  | push-in L-fitting   |      |
| 153335   | QSML-M5-6  | push-in L-fitting   |      |
| 153304   | QSM-M5-4   | push-in fitting     |      |
| 153306   | QSM-M5-6   | push-in fitting     |      |
| 153366   | QSMT-4     | push-in T-connector |      |
| 153367   | QSMT-6     | push-in T-connector |      |

## 11.1 Push-in fittings, QS

| Name                                       | Order code                                          | Remarks                                                                                                                                                                                                           | Documentation                                                                                                                                                                                                |
|--------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Push-in fittings<br>QS, standard<br>series | QS-...<br>QSL-...<br>QSLV-...<br>QST-...<br>QSY-... | Port, G1/8, G1/4, G1/2, G3/8, G3/4<br>For outside tubing diameter 4, 6, 8, 10, 12, 16,<br>22 mm<br>Threaded port<br>- G thread with sealing ring<br>Suitable for vacuum<br>Push-in fittings<br>Push-in connectors |  <a href="#">Documentation</a><br> |

| Part no. | Order code | Name              | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 153034   | QS-10      | push-in connector |      |
| 130607   | QS-10-6    | push-in connector |      |
| 153039   | QS-10-8    | push-in connector |      |
| 153035   | QS-12      | push-in connector |      |
| 153040   | QS-12-10   | push-in connector |      |
| 130608   | QS-12-8    | push-in connector |      |
| 153036   | QS-16      | push-in connector |      |
| 153031   | QS-4       | push-in connector |      |
| 153032   | QS-6       | push-in connector |      |
| 153037   | QS-6-4     | push-in connector |      |
| 153033   | QS-8       | push-in connector |      |
| 130606   | QS-8-4     | push-in connector |      |
| 153038   | QS-8-6     | push-in connector |      |
| 186104   | QS-G1/2-12 | push-in fitting   |      |

|        |              |                     |                                                                                                                                                                                                                                                                                                                                                         |
|--------|--------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 186105 | QS-G1/2-16   | push-in fitting     |             |
| 186101 | QS-G1/4-10   | push-in fitting     |             |
| 186097 | QS-G1/4-6    | push-in fitting     |             |
| 186099 | QS-G1/4-8    | push-in fitting     |             |
| 186095 | QS-G1/8-4    | push-in fitting     |             |
| 186096 | QS-G1/8-6    | push-in fitting     |             |
| 186098 | QS-G1/8-8    | push-in fitting     |             |
| 186102 | QS-G3/8-10   | push-in fitting     |             |
| 186103 | QS-G3/8-12   | push-in fitting     |             |
| 186100 | QS-G3/8-8    | push-in fitting     |             |
| 153073 | QSL-10       | push-in L-connector |             |
| 153074 | QSL-12       | push-in L-connector |             |
| 153075 | QSL-16       | push-in L-connector |             |
| 153070 | QSL-4        | push-in L-connector |             |
| 153071 | QSL-6        | push-in L-connector |         |
| 153072 | QSL-8        | push-in L-connector |     |
| 186125 | QSL-G1/2-12  | push-in L-fitting   |     |
| 186126 | QSL-G1/2-16  | push-in L-fitting   |     |
| 186122 | QSL-G1/4-10  | push-in L-fitting   |     |
| 186118 | QSL-G1/4-6   | push-in L-fitting   |     |
| 186120 | QSL-G1/4-8   | push-in L-fitting   |     |
| 186116 | QSL-G1/8-4   | push-in L-fitting   |     |
| 186117 | QSL-G1/8-6   | push-in L-fitting   |     |
| 186119 | QSL-G1/8-8   | push-in L-fitting   |     |
| 186123 | QSL-G3/8-10  | push-in L-fitting   |     |
| 186124 | QSL-G3/8-12  | push-in L-fitting   |     |
| 186121 | QSL-G3/8-8   | push-in L-fitting   |     |
| 186146 | QSLV-G1/2-12 | push-in L-fitting   |     |
| 186147 | QSLV-G1/2-16 | push-in L-fitting   |     |
| 186143 | QSLV-G1/4-10 | push-in L-fitting   |     |
| 186139 | QSLV-G1/4-6  | push-in L-fitting   |     |
| 186141 | QSLV-G1/4-8  | push-in L-fitting   |     |
| 186137 | QSLV-G1/8-4  | push-in L-fitting   |     |
| 186138 | QSLV-G1/8-6  | push-in L-fitting   |     |
| 186140 | QSLV-G1/8-8  | push-in L-fitting   |     |
| 186144 | QSLV-G3/8-10 | push-in L-fitting   |     |
| 186145 | QSLV-G3/8-12 | push-in L-fitting   |     |
| 186142 | QSLV-G3/8-8  | push-in L-fitting   |     |
| 153131 | QST-10       | push-in T-connector |     |
| 130614 | QST-10-6     | push-in T-connector |     |
| 153136 | QST-10-8     | push-in T-connector |     |
| 153132 | QST-12       | push-in T-connector |     |
| 153137 | QST-12-10    | push-in T-connector |     |
| 130615 | QST-12-8     | push-in T-connector |     |

|        |           |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------|-----------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 153133 | QST-16    | push-in T-connector |                |
| 130616 | QST-16-12 | push-in T-connector |                |
| 153128 | QST-4     | push-in T-connector |                |
| 153129 | QST-6     | push-in T-connector |                |
| 153134 | QST-6-4   | push-in T-connector |                |
| 153130 | QST-8     | push-in T-connector |                |
| 130613 | QST-8-4   | push-in T-connector |                |
| 153135 | QST-8-6   | push-in T-connector |                |
| 153151 | QSY-10    | push-in Y-connector |                |
| 130611 | QSY-10-6  | push-in Y-connector |                |
| 153155 | QSY-10-8  | push-in Y-connector |                |
| 153152 | QSY-12    | push-in Y-connector |                |
| 153156 | QSY-12-10 | push-in Y-connector |                |
| 130612 | QSY-12-8  | push-in Y-connector |      |
| 130609 | QSY-16    | push-in Y-connector |      |
| 153148 | QSY-4     | push-in Y-connector |      |
| 153149 | QSY-6     | push-in Y-connector |      |
| 153153 | QSY-6-4   | push-in Y-connector |      |
| 153150 | QSY-8     | push-in Y-connector |      |
| 130610 | QSY-8-4   | push-in Y-connector |      |
| 153154 | QSY-8-6   | push-in Y-connector |      |

## 11.2 Threaded fittings B

| Name          | Order code | Remarks                                                                                     | Documentation                                                                                                                                                                                                |
|---------------|------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Blanking plug | B-...      | Port G1/8, G1/4, G3/8, G1/2, G3/4,<br>Threaded connections<br>- G thread with sealing ring. |  <a href="#">Documentation</a><br> |

| Part no. | Order code | Name          | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3571     | B-1/2      | blanking plug |      |
| 3569     | B-1/4      | blanking plug |      |
| 3568     | B-1/8      | blanking plug |      |
| 3572     | B-3/4      | blanking plug |      |
| 3570     | B-3/8      | blanking plug |      |
| 174308   | B-M5-B     | blanking plug |      |

### 11.3 Couplings NPHS

| Name                     | Order code | Remarks                                                                                                                                                                                                                                                         | Documentation                                                                                                                                                                                            |
|--------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Coupling sockets<br>NPHS | NPHS-...   | AG connection: G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$<br>IG connection: G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$<br>Barbed connector: N9<br>3/2-way hand slide valve<br>Certified by IFA (Institute for Occupational Safety and Health) |  <a href="#">Documentation</a><br> |

| Part no. | Order code    | Name                  | Links                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------|---------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8059269  | NPHS-D6-P-G12 | quick coupling socket |      |
| 8059267  | NPHS-D6-P-G14 | quick coupling socket |      |
| 8059268  | NPHS-D6-P-G38 | quick coupling socket |      |

### 11.4 Couplings NPHS

| Name                   | Order code | Remarks                                                                                                                                                                                                                                                                            | Documentation                                                                                                                                                                                                |
|------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Coupling plugs<br>NPHS | NPHS-...   | AG connection: G $\frac{1}{8}$ , G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$<br>IG connection: G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$<br>Barbed connector: N9<br>For coupling sockets NPHS<br>Certified by IFA (Institute for Occupational Safety and Health) |  <a href="#">Documentation</a><br> |

| Part no. | Order code    | Name                | Links                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|---------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8059260  | NPHS-S6-M-G12 | quick coupling plug |      |
| 8059258  | NPHS-S6-M-G14 | quick coupling plug |      |
| 8059257  | NPHS-S6-M-G18 | quick coupling plug |      |
| 8059259  | NPHS-S6-M-G38 | quick coupling plug |      |

## 12 Other pneumatic equipment

### 12.1 Silencers AMTE

| Name | Order code | Remarks                                                                                                   | Documentation                                                                                                         |
|------|------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| AMTE | AMTE-...   | Metal variant<br>Connecting threads, M5, G1/8, G1/4, G3/8, G1/2,<br>Sound pressure level 71 ... 95 dB(A). | <a href="#">PDF Documentation</a>  |

| Part no. | Order code    | Name     | Links                                                                            |
|----------|---------------|----------|----------------------------------------------------------------------------------|
| 1205863  | AMTE-M-LH-G12 | silencer | <a href="#">PDF</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">Image</a> |
| 1205861  | AMTE-M-LH-G14 | silencer | <a href="#">PDF</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">Image</a> |
| 1205860  | AMTE-M-LH-G18 | silencer | <a href="#">PDF</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">Image</a> |
| 1205862  | AMTE-M-LH-G38 | silencer | <a href="#">PDF</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">Image</a> |
| 1205858  | AMTE-M-LH-M5  | silencer | <a href="#">PDF</a> <a href="#">CAD</a> <a href="#">3D</a> <a href="#">Image</a> |

### 12.2 Silencers U

| Name | Order code | Remarks                                                                                          | Documentation                                                                                                           |
|------|------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| U    | U-...      | Threaded connection G1/2, G1/4, G1/8, G3/8,<br>Noise level 65 ... 84 dB(A).<br>Aluminium housing | <a href="#">PDF Documentation</a>  |

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

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