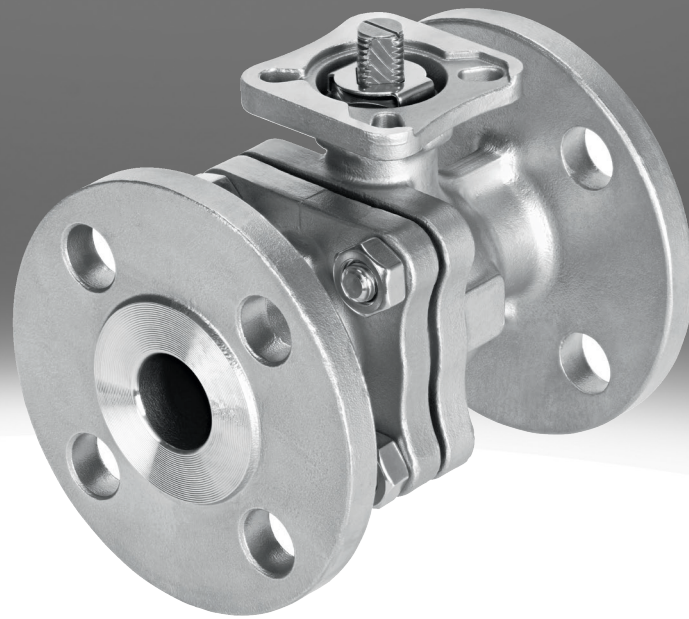


Ball valve VZBF

FESTO



Characteristics

At a glance

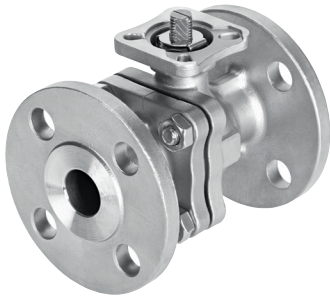
- 2-piece, 2-way
- Static discharge guaranteed
- Flanged connection according to ANSI B16.5 class 150
- API 607 fire safe certification
- CRN certification
- Stainless steel design
- Several connection options
- Lockable hand levers
- Flange hole pattern according to ISO 5211

Function



Actuation type

[L] Via drive



[M] With hand lever



Type code

001	Series
VZBF	Ball valve

002	Nominal diameter DN
1/2	1/2"
3/4	3/4"
1	1"
1 1/4	1 1/4"
1 1/2	1 1/2"
2	2"
2 1/2	2 1/2"
3	3"
4	4"
6	6"
8	8"

003	Process valve connection
P1	Flange to ANSI 150

004	Nominal pressure [bar]
20	20

005	Design type
D	Two-part

006	Valve function
2	2/2-way

007	Flanged connection
F0304	Hole pattern 03 and 04
F0405	Hole pattern 04 and 05
F0507	Hole pattern 05 and 07
F0710	Hole pattern 07 and 10
F1012	Hole pattern 10 and 12
F14	Hole pattern 14

008	Actuation type
	Via drive
M	With hand lever

009	Housing material
V15	Stainless steel ASTM A351-CF8M

010	Shut-off element material
V15	Stainless steel ASTM A351-CF8M
V16	Stainless steel ASTM A240-316 / 1.4401

Datasheet

General technical data, 2-way

Nominal size DN	15	20	25	32	40	50	65	80	100	150	200
Connection Process valve	Flange to ANSI B16.5 class 150										
Valve function	2/2										
Design	2-way ball valve										
Sealing principle	Soft										
Type of actuation	Mechanical										
Switching position indicator	Slot direction = flow direction										
Flow direction	Reversible										
Type of mounting	Inline installation										
Mounting position	Any										
Based on standard	ANSI B16.5 class 150, ISO 5211										
Breakaway torque at differential pressure, nominal pressure, process valve PN	8 Nm	10 Nm	12 Nm	20 Nm	30 Nm	40 Nm	60 Nm	90 Nm	130 Nm	350 Nm	600 Nm
Inside diameter	15 mm	20 mm	24 mm	30 mm	38 mm	50 mm	64 mm	76 mm	98 mm	150 mm	200 mm
Flow rate Kv	32 m ³ /h	59 m ³ /h	87 m ³ /h	140 m ³ /h	232 m ³ /h	420 m ³ /h	707 m ³ /h	995 m ³ /h	1,707 m ³ /h	4,258 m ³ /h	7,816 m ³ /h

General technical data, 2-way with hand lever

Nominal size DN	15	20	25	32	40	50	65	80	100	
Connection Process valve	Flange to ANSI B16.5 class 150									
Valve function	2/2									
Design	2-way ball valve									
Sealing principle	Soft									
Type of actuation	Mechanical									
Switching position indicator	Slot direction = flow direction									
Flow direction	Reversible									
Type of mounting	Inline installation									
Mounting position	Any									
Based on standard	ANSI B16.5 class 150, ISO 5211									
Breakaway torque at differential pressure, nominal pressure, process valve PN	8 Nm	10 Nm	12 Nm	20 Nm	30 Nm	40 Nm	60 Nm	90 Nm	130 Nm	
Inside diameter	15 mm	20 mm	24 mm	30 mm	38 mm	50 mm	64 mm	76 mm	98 mm	
Flow rate Kv	32 m ³ /h	59 m ³ /h	87 m ³ /h	140 m ³ /h	232 m ³ /h	420 m ³ /h	707 m ³ /h	995 m ³ /h	1,707 m ³ /h	

Operating and ambient conditions, 2-way

Nominal size DN	15	20	25	32	40	50	65	80	100	150	200
Nominal pressure PN	20										
Media temperature	-20 ... 200°C										
Medium	Vapour, Compressed air to ISO 8573-1:2010 [:-:-], Inert gases, Water, Neutral fluids										
Approval	API607, CRN										CRN
Corrosion resistance class CRC ¹⁾	4 - Very high corrosion stress										
CE mark (see declaration of conformity)	-			In accordance with EU Pressure Equipment Directive							

1) More information www.festo.com/catalogue/mbk

Operating and environmental conditions, 2-way with hand lever

Nominal size DN	15	20	25	32	40	50	65	80	100	
Nominal pressure PN	20									
Media temperature	-20 ... 200°C									
Medium	Vapour, Compressed air to ISO 8573-1:2010 [:-:-], Inert gases, Water, Neutral fluids									
Approval	API607, CRN									
Corrosion resistance class CRC ¹⁾	4 - Very high corrosion stress									
CE mark (see declaration of conformity)	-			In accordance with EU Pressure Equipment Directive						

1) More information www.festo.com/catalogue/mbk

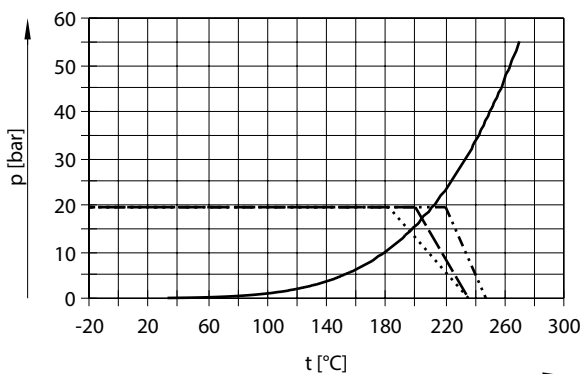
Datasheet

Materials, 2-way

Material housing	Cast stainless steel
Material number housing	1,4408
Material ball	Cast stainless steel, High-alloy stainless steel
Material number ball	1,4401, 1,4408
Material shaft	High-alloy stainless steel
Material number shaft	1,4401
Material seals	Fluoro rubber, Graphite, PCTFE, PTFE
Note on materials	RoHS compliant

Materials, 2-way with hand lever

Material housing	Cast stainless steel
Material number housing	1,4408
Material ball	Cast stainless steel
Material number ball	1,4408
Material shaft	High-alloy stainless steel
Material number shaft	1,4401
Material seat seal	PTFE, PTFE, modified
Material seals	Fluoro rubber, Graphite, PCTFE, PTFE
Note on materials	RoHS compliant

Permissible operating pressure p as a function of temperature of medium t 

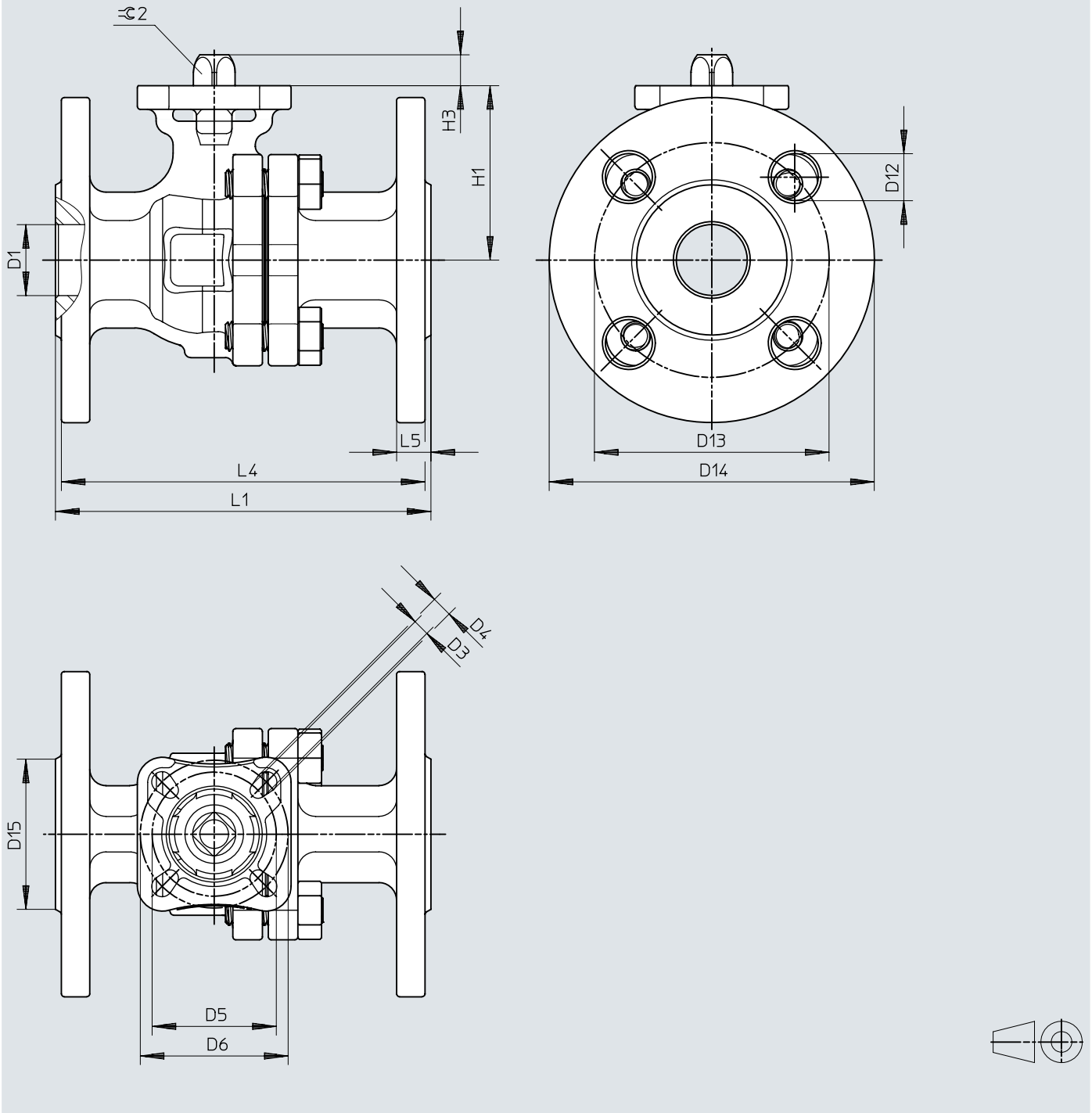
- [1] Saturated water vapour
- [2] Modified PTFE
- [3] Reinforced PTFE
- [4] PTFE

- [1]
- - - [2]
- · - · [3]
- · · · [4]

Dimensions

Dimensions – Ball valves VZBF, 2-way

Download CAD data www.festo.com



Dimensions

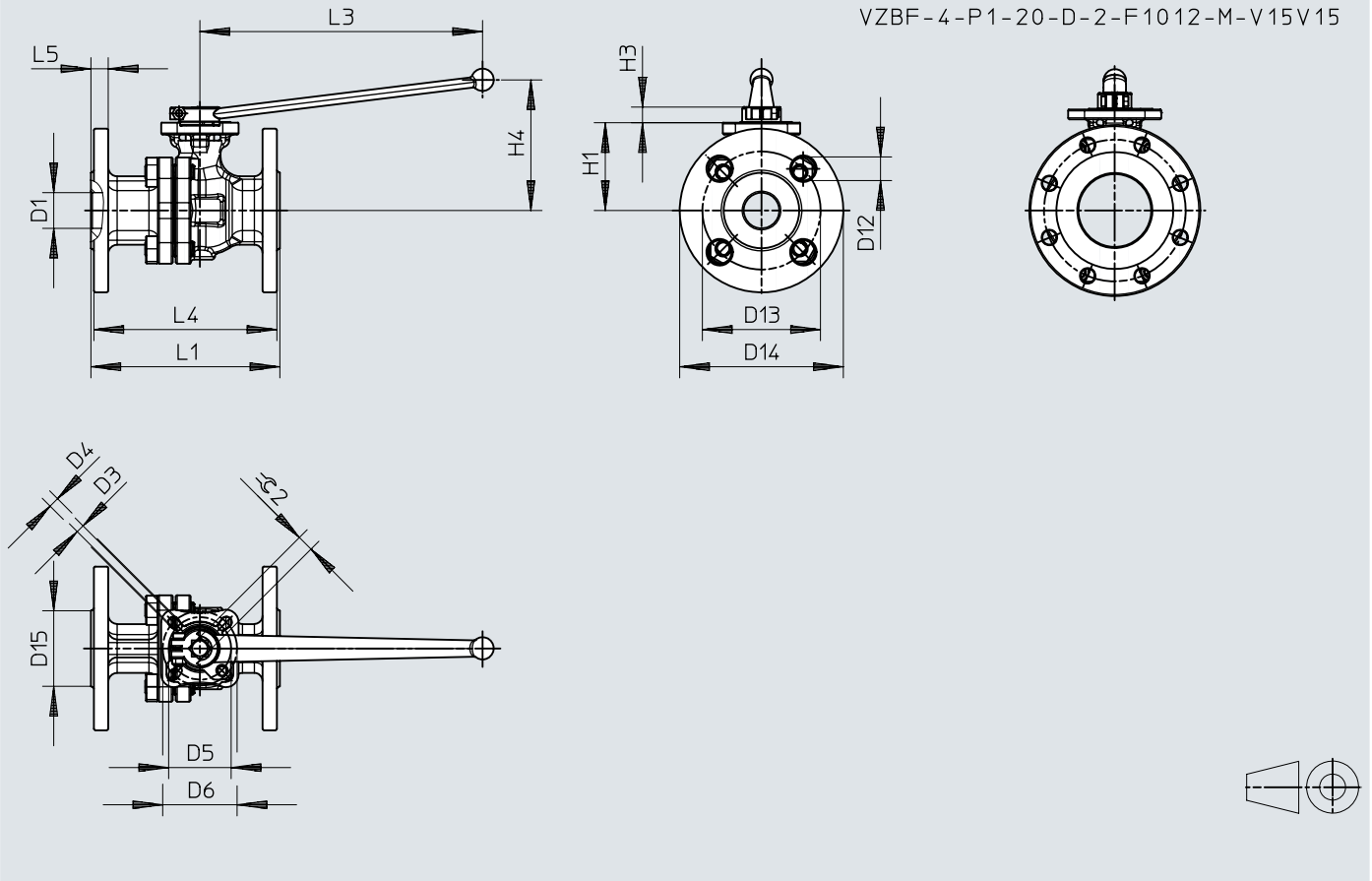
	D1 ∅	D3 ∅	D4 ∅	D5 ∅	D6 ∅	D12 ∅	D13 ∅	D14 ∅	D15 ∅	H1	H3	L1 ±2	L4	L5	≈E2
VZBF-1/2-...	15	5,5	5,5	36	42	16	60,5	89	35	50,5	8,5	108	104,8	11,1	9
VZBF-3/4-...	20	5,5	5,5	36	42	16	70	98	43	55	8,5	117	113,8	11,6	9
VZBF-1-...	24	5,5	7	42	50	16	79,5	108	51	59	10,5	127,5	124,3	11,6	11
VZBF-1 1/4-...	30	5,5	7	42	50	16	89	117	64	62	10,5	140,5	137,3	12,7	11
VZBF-1 1/2-...	38	7	9	50	70	16	98,5	127	73	76	14	165	161,8	14,3	14
VZBF-2-...	50	7	9	50	70	19	120,5	152	92	84,5	14	178	174,8	16	14
VZBF-2 1/2-...	64	9	11	70	102	19	139,5	178	105	104,5	17	190,5	187,3	17,5	17
VZBF-3-...	76	9	11	70	102	19	152,5	190,5	127	111,5	17	203	199,8	19,1	17
VZBF-4-...	98	11	13	102	125	19	190,5	229	157	135,5	23	229	225,8	24	22
VZBF-6-...	150	11	13	102	125	22,4	241,5	279	216	201	27,5	394	390,8	25,4	27
VZBF-8-...	200	17	-	140	-	22,4	298,5	343	270	259	36	457	453,8	28,6	36

Dimensions

Dimensions – Ball valves VZBF, 2-way with hand lever

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VZBF-4-P1-20-D-2-F1012-M-V15V15



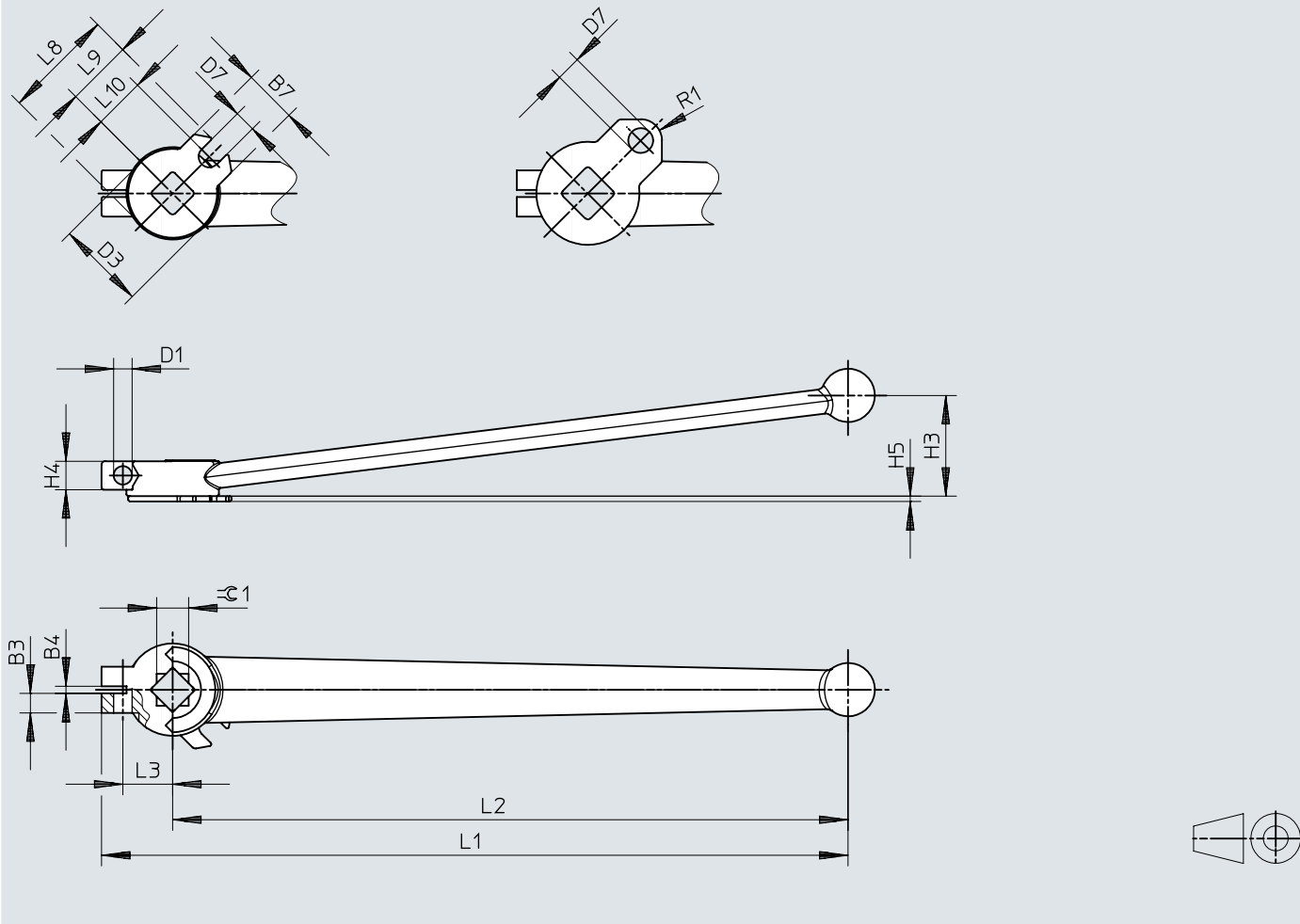
	D1 ø	D3 ø	D4 ø	D5 ø	D6 ø	D12 ø	D13 ø	D14 ø	D15 ø	H1	H3	H4	L1 ±2	L3	L4	L5	☉2
VZBF-1/2-...	15	5,5	5,5	36	42	16	60,5	89	35	50,5	8,5	78,5	108	190	104,8	11,1	9
VZBF-3/4-...	20	5,5	5,5	36	42	16	70	98	43	55	8,5	83	117	190	113,8	11,6	9
VZBF-1-...	24	5,5	7	42	50	16	79,5	108	51	59	10,5	86,7	127,5	190	124,3	11,6	11
VZBF-1 1/4-...	30	5,5	7	42	50	16	89	117	64	62	10,5	90,4	140,5	190	137,3	12,7	11
VZBF-1 1/2-...	38	7	9	50	70	16	98,5	127	73	76	14	108,4	165	235	161,8	14,3	14
VZBF-2-...	50	7	9	50	70	19	120,5	152	92	84,5	14	117,4	178	235	174,8	16	14
VZBF-2 1/2-...	64	9	11	70	102	19	139,5	178	105	104,5	17	141,3	190,5	325	187,3	17,5	17
VZBF-3-...	76	9	11	70	102	19	152,5	190,5	127	111,5	17	148,3	203	325	199,8	19,1	17
VZBF-4-...	98	11	13	102	125	19	190,5	229	157	135,5	23	175,9	229	325	225,8	24	22

Dimensions

Dimensions – Hand lever VAOH 1/2" ... 1 1/4"

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1" - 1 1/4"

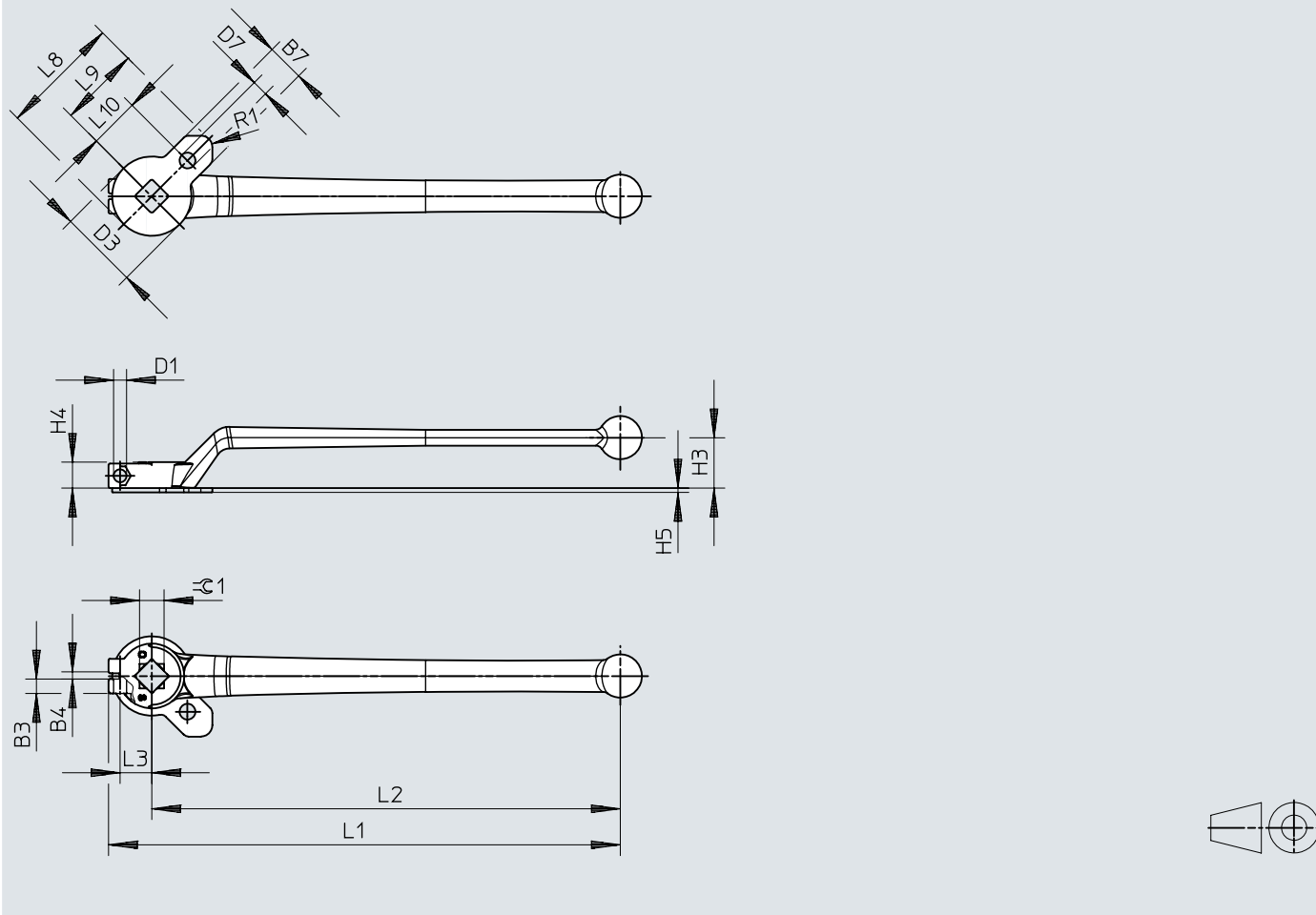


		B3	B4	B7	D1 ø	D3 ø	D7 ø	H3	H4	H5	L1	L2	L3	L8	L9	L10	R1	≡C1
VAOH-F9-9-H9-A	1/2" ... 3/4"	5,5	2	15,8	5,2	25	6	28,3	8	1,5	210	190	14	33,5	21,1	18	-	9
VAOH-F9-11-H9-A	1" ... 1 1/4"	5,5	2	17,8	5,2	29	7	28,3	8	1,8	210	190	14	41,5	27	21	6	11
VAOH-F9-14-H9-A	1 1/2" ... 2"	5,5	3	26	6,2	35	8	30,5	13,5	2	260	235	16,2	54	36,5	25	5	14

Dimensions

Dimensions – Hand lever VAOH 1 1/2" ... 4"

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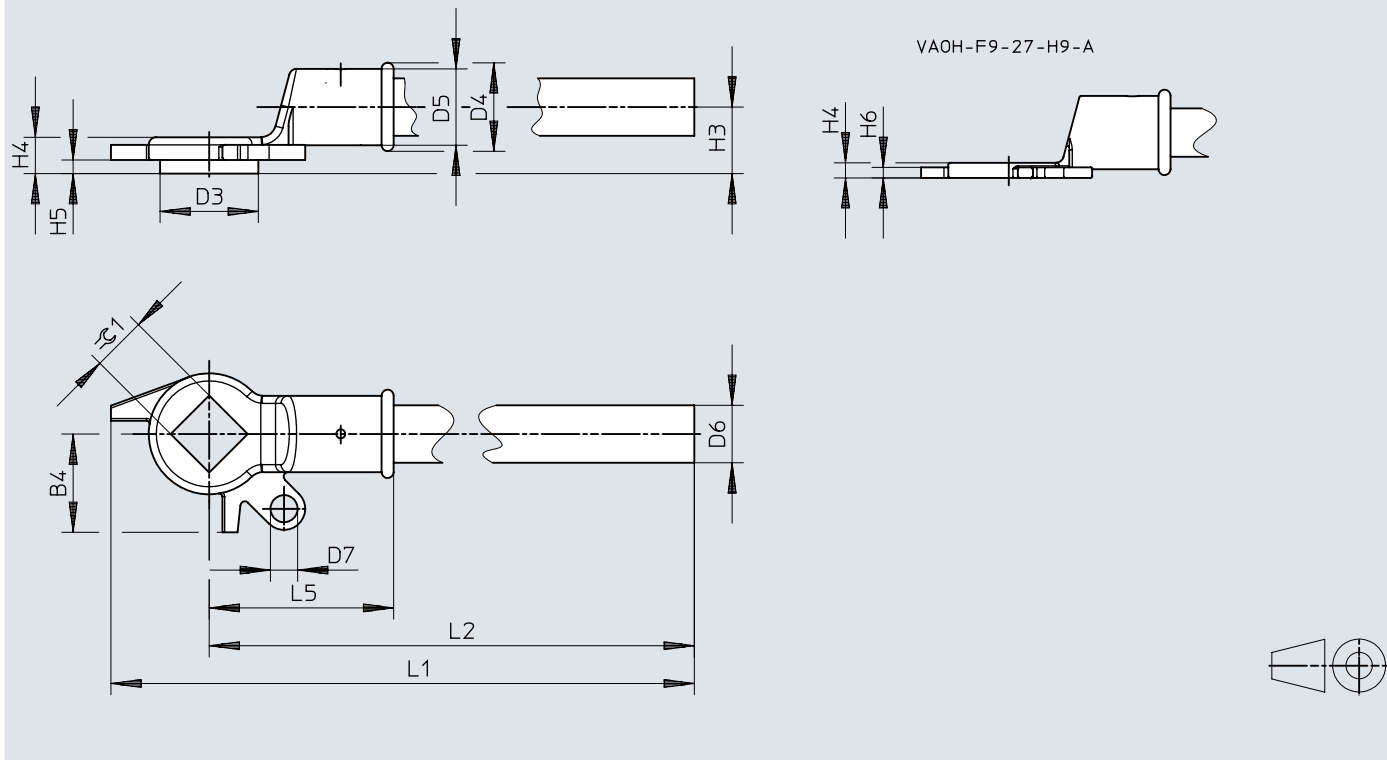


		B3	B4	B7	D1	D3	D7	H3	H4	H5	L1	L2	L3	L8	L9	L10	R1	$\text{⌀}1$
					∅	∅	∅											±0,5
VAOH-F9-17-H9-A	2 1/2" ... 3"	10	4	27,5	9	55	11	35	18	3	355	325	22	83,6	56,1	35	8	17
VAOH-F9-22-H9-A	4"	10	4	27,5	9	70	12	38	21	3	355	325	22	102,7	67,7	51	7	22

Dimensions

Dimensions – Hand lever VAOH

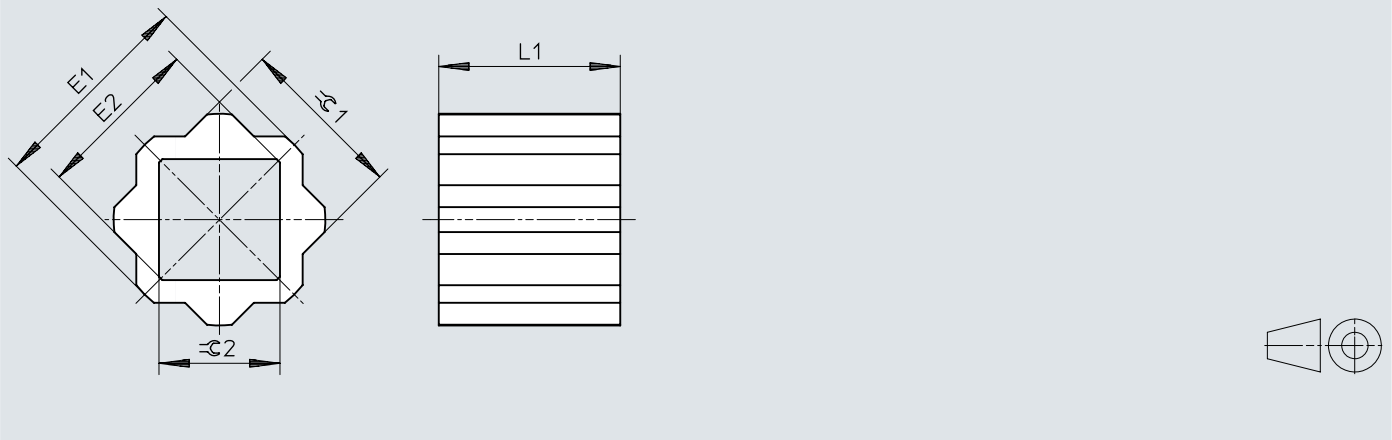
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		B4	D3	D4	D5	D6	D7	H3	H4	H5	H6	L1	L2	L5	≈G1
			∅	∅	∅	∅	∅								
VAOH-F9-27-H9-A	6"	58	–	56,5	48,5	32	14	30	10	–	7	815,1	757,1	107	27
VAOH-F9-36-H9-A	8"	65	65	58,5	50,5	38	18	43,1	15	9	10	928	863	122	36

Dimensions

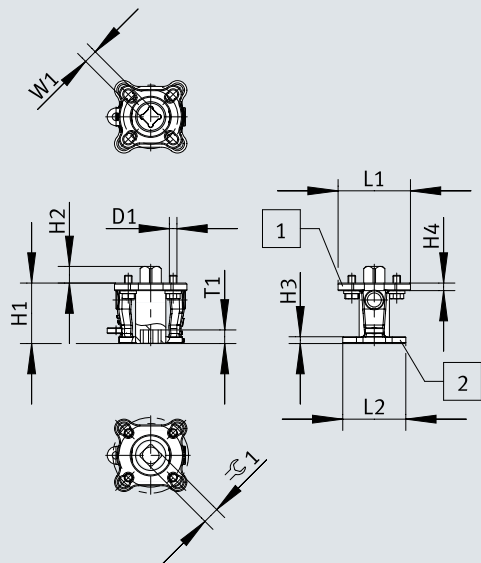
Dimensions – Reducing sleeve DARQ

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	E1 +0,1/-0,3	E2 +0,3/-0,1	L1 $\pm 0,2$	$\pm C1$ -0,02/-0,12	$\pm C2$ +0,04/+0,18
DARQ-R-A-S11-S8-...	14	11	12	11	8
DARQ-R-A-S11-S9-...	14	12,3	11	11	9
DARQ-R-A-S14-S8-...	18	11	16	14	8
DARQ-R-A-S14-S9-...	18	12,3	16	14	9
DARQ-R-A-S14-S10-...	18	13,3	16	14	10
DARQ-R-A-S14-S11-...	18	14,3	16	14	11
DARQ-R-A-S14-S12-...	18	16,3	16	14	12
DARQ-R-A-S17-S8-...	22	11	17	17	8
DARQ-R-A-S17-S9-...	22	12,3	17	17	9
DARQ-R-A-S17-S11-...	22	14,3	17	17	11
DARQ-R-A-S17-S12-...	22	16,3	17	17	12
DARQ-R-A-S17-S14-...	22	18,3	17	17	14
DARQ-R-A-S22-S11-...	28	14,3	22	22	11
DARQ-R-A-S22-S14-...	28	18,3	22	22	14
DARQ-R-A-S22-S16-...	28	21,3	22	22	16
DARQ-R-A-S22-S17-...	28	22,3	22	22	17
DARQ-R-A-S27-S14-...	36	18,3	27	27	14
DARQ-R-A-S27-S17-...	36	22,3	27	27	17
DARQ-R-A-S27-S22-...	36	28,5	27	27	22
DARQ-R-A-S36-S22-...	48	28,5	36	36	22
DARQ-R-A-S36-S27-...	48	36,1	36	36	27
DARQ-R-A-S46-S22-...	59	28,5	46	46	22
DARQ-R-A-S46-S27-...	59	36,1	46	46	27
DARQ-R-A-S46-S36-...	59	48	46	46	36

Dimensions

Dimensions – Mounting kit DARQ

Download CAD data www.festo.com

[1] Connection 1, drive output

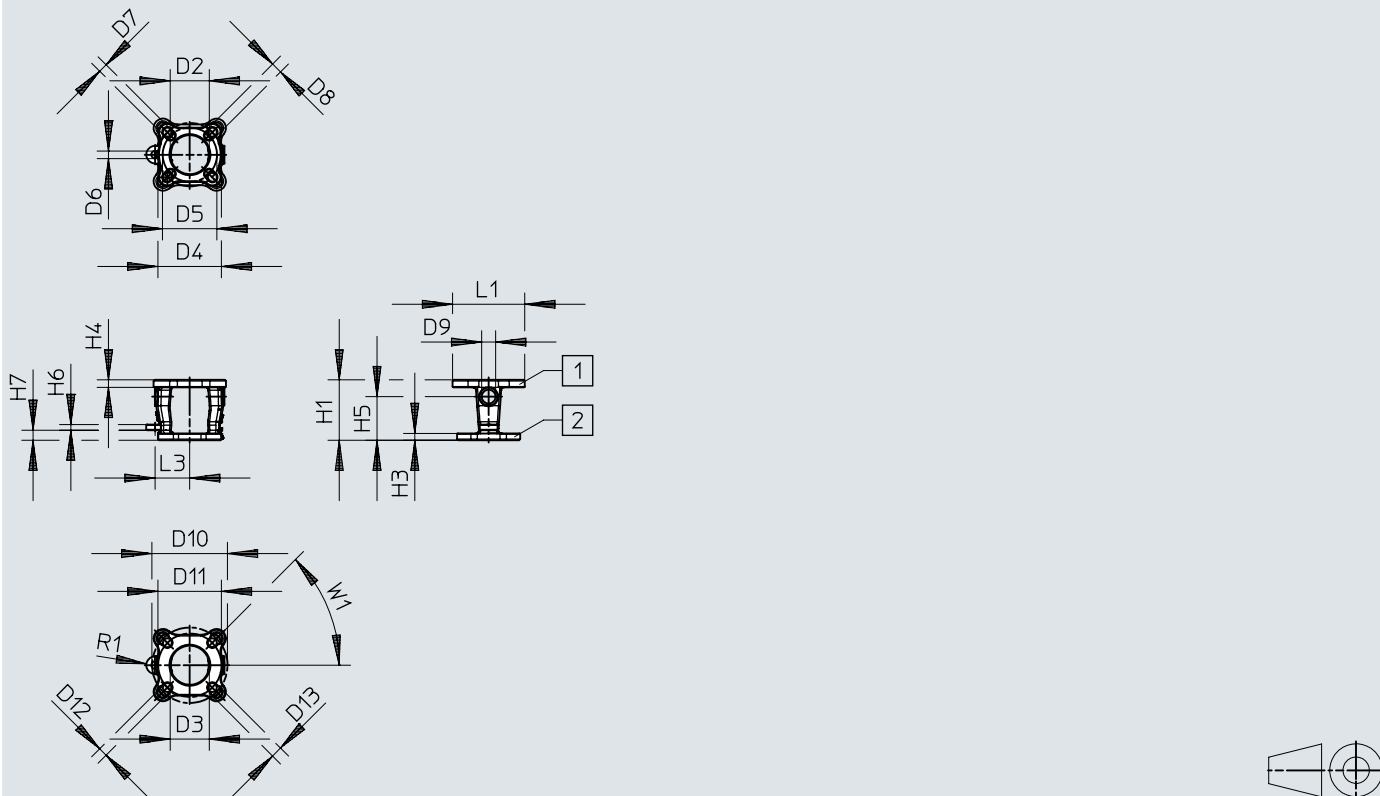
[2] Connection 2, reducing outlet

	D1	H1	H2	H3	H4	L1	L2	T1	W1 H11	⌀ 1 h11
DARQ-K-V-F04S11-F03S9-R1	M5	40	11	3,2	5	46	23	9	9	11
DARQ-K-V-F05S14-F03S9-R1	M6	40	15	3,2	5	46	23	9	9	14
DARQ-K-V-F05S14-F04S11-R1	M6	40	15	3,2	5	46	23	11	11	14
DARQ-K-V-F07S17-F04S11-R1	M8	50	18	6	6	66	30,5	11	11	17
DARQ-K-V-F07S17-F05S14-R1	M8	50	18	6	6	66	30,5	15	14	17
DARQ-K-V-F10S22-F05S14-R1	M10	75	23	10	9,5	132,1	63	15	14	22
DARQ-K-V-F10S22-F07S17-R1	M10	75	23	10	9,5	132,1	63	18	17	22
DARQ-K-V-F10S27-F07S17-R1	M10	75	28	10	9,5	132,1	63	18	17	27

Dimensions

Dimensions – Mounting adapter DARQ

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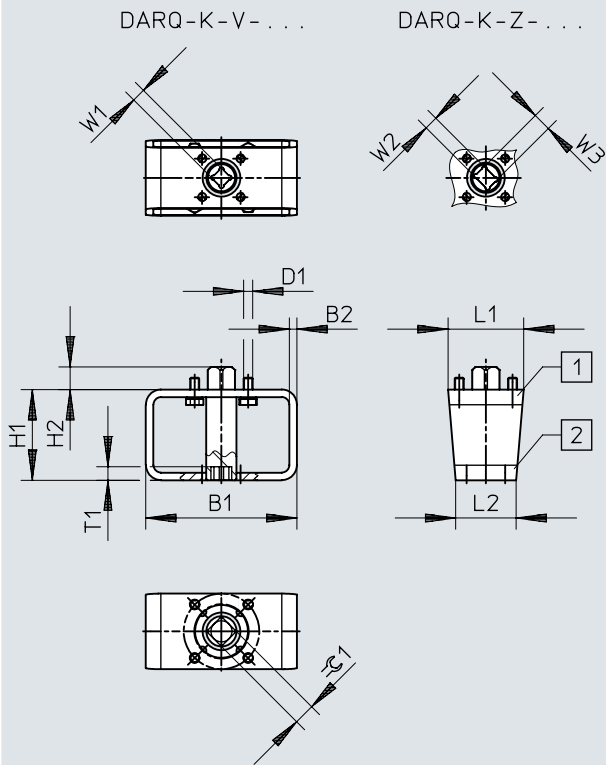
- [1] Connection 1, drive output
- [2] Connection 2, reducing outlet

	D2 ø	D3 ø	D4 ø	D5 ø	D6 ø	D7 ø	D8 ø	D9 ø	D10 ø	D11 ø
DARQ-B-F0405-F0304-...	25,9	25,9	42	36	5,1	6,1	6,1	9,4	50	42
DARQ-B-F0507-F0405-...	30,5	36,8	50	42	5,1	7,6	6,6	10,9	70	50
DARQ-B-F0710-F0507-...	38,6	50	70	50	5,1	8,9	7,1	14	102	70
DARQ-B-F1012-F10-...	69,9	76,2	–	102	5,1	–	11,2	17,3	125	102

	D12 ø	D13 ø	H1	H3	H4	H5	H6	H7	L1	L3	W1
DARQ-B-F0405-F0304-...	6,1	7,6	39,9	3,2	5	28,2	3,8	7,1	46	22,9	45°
DARQ-B-F0507-F0405-...	7,6	10,2	50	6	6	36,3	3,8	7,1	66	30,5	45°
DARQ-B-F0710-F0507-...	8,9	10,9	74,9	9,5	9,5	50,5	3,8	7,1	102,1	39,1	45°
DARQ-B-F1012-F10-...	11,2	13	80	10	9,5	58,4	3,8	7,1	132,1	63	45°

Dimensions

Dimensions – Mounting kit DARQ-K-V/DARQ-K-Z

Download CAD data www.festo.com

- [1] Connection 1, drive output
- [2] Connection 2, reducing outlet

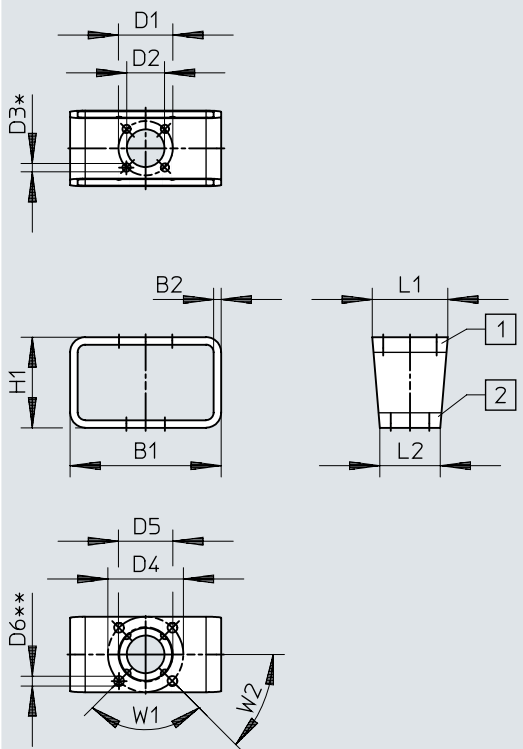
Dimensions

	B1	B2	D1	H1	H2	L1	L2	T1	W1 H11	≈ 1 h11
DARQ-K-V-F03S9-F03S9-...	80	4	M5	50	9	40	40	9	9	9
DARQ-K-V-F04S11-F03S9-...	80	4	M5	50	11	45	40	9	9	11
DARQ-K-V-F04S11-F04S11-...	80	4	M5	50	11	45	45	11	11	11
DARQ-K-V-F05S14-F03S9-...	100	5	M6	60	15	50	40	9	9	14
DARQ-K-V-F05S14-F04S11-...	100	5	M6	60	15	50	45	11	11	14
DARQ-K-V-F05S14-F05S14-...	100	5	M6	60	15	50	50	15	14	14
DARQ-K-V-F07S17-F03S9	100	5	M8	60	18	70	45	9	9	17
DARQ-K-V-F07S17-F04S11-...	100	5	M8	60	18	70	45	11	11	17
DARQ-K-V-F07S17-F05S14-...	100	5	M8	60	18	70	50	15	14	17
DARQ-K-V-F07S17-F07S14-...	100	5	M8	60	18	70	70	15	14	17
DARQ-K-V-F07S22-F05S11-...	100	5	M8	60	23	70	50	11	11	22
DARQ-K-V-F10S22-F04S11	120	5	M10	80	22	95	50	11	11	22
DARQ-K-V-F10S22-F05S14-...	120	5	M10	80	22,5	95	50	15	14	22
DARQ-K-V-F10S22-F07S17-...	120	5	M10	80	22,5	95	70	18	17	22
DARQ-K-V-F10S22-F10S22-...	120	5	M10	80	22,5	95	95	22,5	22	22
DARQ-K-V-F10S27-F05S14-...	120	5	M10	80	27,5	95	50	15	14	27
DARQ-K-V-F10S27-F07S14-...	120	5	M10	80	27,5	95	70	15	14	27
DARQ-K-V-F10S27-F07S17-...	120	5	M10	80	27,5	95	70	18	17	27
DARQ-K-V-F12S27-F05S14	160	6	M12	80	27	115	70	15	14	27
DARQ-K-V-F12S27-F07S14	160	6	M12	80	27	115	70	15	14	27
DARQ-K-V-F12S27-F07S17-...	160	6	M12	80	27	115	70	18	17	27
DARQ-K-V-F12S27-F10S22-...	160	6	M12	80	27	115	95	22,5	22	27
DARQ-K-V-F12S27-F12S27-...	160	6	M12	80	27	115	115	27,5	27	27

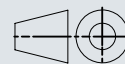
	B1	B2	D1	H1	H2	L1	L2	T1	W2 -0,1	W3 H11	≈ 1 h11
DARQ-K-Z-F03S9-F03S9-...	80	4	M5	50	9	40	40	14	9	12,1	9
DARQ-K-Z-F04S11-F03S9-...	80	4	M5	50	11	45	40	14	9	12,1	11
DARQ-K-Z-F04S11-F04S11-...	80	4	M5	50	11	45	45	17	11	14,1	11
DARQ-K-Z-F05S14-F03S9-...	100	5	M6	60	15	50	40	14	9	12,1	14
DARQ-K-Z-F05S14-F04S11-...	100	5	M6	60	15	50	45	17	11	14,1	14
DARQ-K-Z-F05S14-F05S14-...	100	5	M6	60	15	50	50	21	14	18,1	14
DARQ-K-Z-F07S17-F04S11-...	100	5	M8	60	18	70	45	17	11	14,1	17
DARQ-K-Z-F07S17-F05S14-...	100	5	M8	60	18	70	50	21	14	18,1	17
DARQ-K-Z-F07S17-F07S14-...	100	5	M8	60	18	70	70	21	14	18,1	17
DARQ-K-Z-F10S22-F05S14-...	120	5	M10	80	22,5	95	50	21	14	18,1	22
DARQ-K-Z-F10S22-F07S17-...	120	5	M10	80	22,5	95	70	26	17	22,2	22
DARQ-K-Z-F10S22-F10S22-...	120	5	M10	80	22,5	95	95	33	22	28,2	22

Dimensions

Dimensions – Mounting adapter DARQ-B

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- [1] Drive outlet flange 1
- [2] Reducing outlet flange 2
- [3] * = N1 (number of holes flange 1)
- [4] ** = N2 (number of holes flange 2)




Dimensions

	B1	B2	D1 ∅	D2 ∅	D3 ∅	D4 ∅	D5 ∅	D6 ∅	H1	L1	L2	*N1	**N2	W1	W2
DARQ-B-F03-F03-...	80	4	36	25	5,5	36	25	5,5	50	40	40	4	4	90°	45°
DARQ-B-F04-F03-...	80	4	36	25	5,5	42	30	5,5	50	45	40	4	4	90°	45°
DARQ-B-F04-F04-...	80	4	42	30	5,5	42	30	5,5	50	45	45	4	4	90°	45°
DARQ-B-F05-F03-...	100	5	36	25	5,5	50	35	6,5	60	50	40	4	4	90°	45°
DARQ-B-F05-F04-...	100	5	42	30	5,5	50	35	6,5	60	50	45	4	4	90°	45°
DARQ-B-F05-F05-...	100	5	50	35	6,5	50	35	6,5	60	50	50	4	4	90°	45°
DARQ-B-F07-F04-...	100	5	42	30	5,5	70	55	9	60	70	45	4	4	90°	45°
DARQ-B-F07-F05-...	100	5	50	35	6,5	70	55	9	60	70	50	4	4	90°	45°
DARQ-B-F07-F07-...	100	5	70	55	9	70	55	9	60	70	70	4	4	90°	45°
DARQ-B-F10-F05-...	120	5	50	35	6,5	102	70	11	80	95	50	4	4	90°	45°
DARQ-B-F10-F07-...	120	5	70	55	9	102	70	11	80	95	70	4	4	90°	45°
DARQ-B-F10-F10-...	120	5	102	70	11	102	70	11	80	95	95	4	4	90°	45°
DARQ-B-F12-F07-...	160	6	70	55	9	125	85	13	80	115	70	4	4	90°	45°
DARQ-B-F12-F10-...	160	6	102	70	11	125	85	13	80	115	95	4	4	90°	45°
DARQ-B-F12-F12-...	160	6	125	85	13	125	85	13	80	115	115	4	4	90°	45°


	B1	B2	D1 ∅	D2 ∅	D3 ∅	D4 ∅	D5 ∅	D6 ∅	H1	L1	L2	*N1	**N2	W1	W2
DARQ-B-F14-F10-...	160	6	102	70	11	140	100	17	80	135	95	4	4	90°	45°
DARQ-B-F14-F12-...	160	6	125	85	13	140	100	17	80	135	115	4	4	90°	45°
DARQ-B-F14-F14-...	160	6	140	100	17	140	100	17	80	135	135	4	4	90°	45°
DARQ-B-F16-F12-...	200	6	125	85	13	165	130	21	100	160	115	4	4	90°	45°
DARQ-B-F16-F14-...	200	6	140	100	17	165	130	21	100	160	135	4	4	90°	45°
DARQ-B-F16-F16-...	200	6	165	130	21	165	130	21	100	160	160	4	4	90°	45°
DARQ-B-F25-F14-...	400	10	140	100	17	254	200	17	200	270	135	8	4	45°	22,5°
DARQ-B-F25-F16-...	400	10	165	130	21	254	200	17	200	270	160	8	4	45°	22,5°
DARQ-B-F25-F25-...	400	10	254	200	17	254	200	17	200	270	270	8	4	45°	22,5°
DARQ-B-F30-F16-...	400	10	165	130	21	298	230	21	200	320	160	8	4	45°	22,5°
DARQ-B-F30-F25-...	400	10	254	200	17	298	230	21	200	320	270	8	4	45°	22,5°
DARQ-B-F30-F30-...	400	10	298	200	21	298	230	21	200	320	320	8	4	45°	22,5°

Ordering data

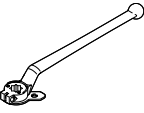
2-way

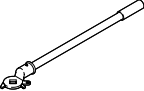
	Nominal size DN	Product weight	Part no.	Type
	15	1,550 g	4810851	VZBF-1/2-P1-20-D-2-F0304-V15V15
	20	1,950 g	4810852	VZBF-3/4-P1-20-D-2-F0304-V15V15
	25	3,050 g	4810853	VZBF-1-P1-20-D-2-F0405-V15V15
	32	3,550 g	4810854	VZBF-11/4-P1-20-D-2-F0405-V15V15
	40	5,630 g	4810855	VZBF-11/2-P1-20-D-2-F0507-V15V15
	50	7,630 g	4810856	VZBF-2-P1-20-D-2-F0507-V15V15
	65	13,650 g	4810857	VZBF-21/2-P1-20-D-2-F0710-V15V15
	80	17,350 g	4810859	VZBF-3-P1-20-D-2-F0710-V15V15
	100	28,100 g	4810860	VZBF-4-P1-20-D-2-F1012-V15V15
	150	50,200 g	4810861	VZBF-6-P1-20-D-2-F1012-V15V16
200	84,200 g	4810862	VZBF-8-P1-20-D-2-F14-V15V16	


2-way with hand lever

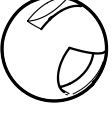
	Nominal size DN	Product weight	Part no.	Type
	15	1,700 g	8097467	VZBF-1/2-P1-20-D-2-F0304-M-V15V15
	20	2,100 g	8097468	VZBF-3/4-P1-20-D-2-F0304-M-V15V15
	25	3,200 g	8097469	VZBF-1-P1-20-D-2-F0405-M-V15V15
	32	3,700 g	8097470	VZBF-11/4-P1-20-D-2-F0405-M-V15V15
	40	6,000 g	8097471	VZBF-11/2-P1-20-D-2-F0507-M-V15V15
	50	8,000 g	8097472	VZBF-2-P1-20-D-2-F0507-M-V15V15
	65	14,500 g	8097473	VZBF-21/2-P1-20-D-2-F0710-M-V15V15
	80	18,200 g	8097474	VZBF-3-P1-20-D-2-F0710-M-V15V15
	100	29,000 g	8097475	VZBF-4-P1-20-D-2-F1012-M-V15V15


Accessories

Hand lever VAOH				
	Description	Product weight	Part no.	Type
	For connection 1/2" ... 3/4"	150 g	4895982	VAOH-F9-9-H9-A
	For connection 1" ... 1 1/4"		4895983	VAOH-F9-11-H9-A
	For connection 1 1/2" ... 2"	370 g	4895984	VAOH-F9-14-H9-A
	For connection 2 1/2" ... 3"	850 g	4895985	VAOH-F9-17-H9-A
	For connection 4"	900 g	4895986	VAOH-F9-22-H9-A

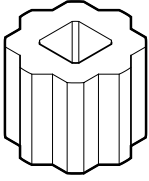
Hand lever VAOH-F9-27/36				
	Description	Product weight	Part no.	Type
	For connection 6"	1,800 g	4895987	VAOH-F9-27-H9-A
	For connection 8"	3,800 g	4895988	VAOH-F9-36-H9-A

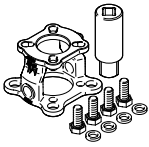
V-port ball VAVC, passage opening 30°				
	Nominal size DN	Product weight	Part no.	Type
	15	52.6 g	8083128	VAVC-F9-B-V30-1/2"
	20		8083129	VAVC-F9-B-V30-3/4"
	25	159.6 g	8083130	VAVC-F9-B-V30-1"
	32		8083131	VAVC-F9-B-V30-1 1/4"
	40	257.7 g	8083132	VAVC-F9-B-V30-1 1/2"
	50	516.9 g	8083133	VAVC-F9-B-V30-2"
	65	954.3 g	8083134	VAVC-F9-B-V30-2 1/2"
	80	2,384.1 g	8083135	VAVC-F9-B-V30-3"
100	3,287.3 g	8083136	VAVC-F9-B-V30-4"	

V-port ball VAVC, passage opening 60°				
	Nominal size DN	Product weight	Part no.	Type
	15	51.1 g	8083137	VAVC-F9-B-V60-1/2"
	20		8083138	VAVC-F9-B-V60-3/4"
	25	154.4 g	8083139	VAVC-F9-B-V60-1"
	32		8083140	VAVC-F9-B-V60-1 1/4"
	40	248.5 g	8083141	VAVC-F9-B-V60-1 1/2"
	50	501.5 g	8083142	VAVC-F9-B-V60-2"
	65	922 g	8083143	VAVC-F9-B-V60-2 1/2"
	80	2,323.6 g	8083144	VAVC-F9-B-V60-3"
100	3,203.9 g	8083145	VAVC-F9-B-V60-4"	


V-port ball VAVC, passage opening 90°				
	Nominal size DN	Product weight	Part no.	Type
	15	49.8 g	8083146	VAVC-F9-B-V90-1/2"
	20		8083147	VAVC-F9-B-V90-3/4"
	25	150.5 g	8083148	VAVC-F9-B-V90-1"
	32		8083149	VAVC-F9-B-V90-1 1/4"
	40	241.5 g	8083150	VAVC-F9-B-V90-1 1/2"
	50	489.4 g	8083151	VAVC-F9-B-V90-2"
	65	896.8 g	8083152	VAVC-F9-B-V90-2 1/2"
	80	2,276.4 g	8083153	VAVC-F9-B-V90-3"
	100	3,139 g	8083154	VAVC-F9-B-V90-4"

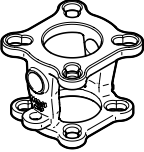
Accessories

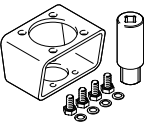
Reducing sleeve DARQ				
	Length	Product weight	Part no.	Type
	11 mm	5 g	8082117	DARQ-R-A-S11-S9-11
		25 g	8082131	DARQ-R-A-S11-S9-11-P5
		50 g	8082140	DARQ-R-A-S11-S9-11-P10
		250 g	8082145	DARQ-R-A-S11-S9-11-P50
	12 mm	7 g	8082116	DARQ-R-A-S11-S8-12
		35 g	8082130	DARQ-R-A-S11-S8-12-P5
	16 mm	10 g	8082121	DARQ-R-A-S14-S12-16
		13 g	8082120	DARQ-R-A-S14-S11-16
		16 g	8082119	DARQ-R-A-S14-S10-16
		18 g	8082118	DARQ-R-A-S14-S9-16
		20 g	8086383	DARQ-R-A-S14-S8-16
		65 g	8082133	DARQ-R-A-S14-S11-16-P5
		90 g	8082132	DARQ-R-A-S14-S9-16-P5
		100 g	8086388	DARQ-R-A-S14-S8-16-P5
		130 g	8082142	DARQ-R-A-S14-S11-16-P10
		180 g	8082141	DARQ-R-A-S14-S9-16-P10
		650 g	8082147	DARQ-R-A-S14-S11-16-P50
		900 g	8082146	DARQ-R-A-S14-S9-16-P50
	17 mm	19 g	8082123	DARQ-R-A-S17-S14-17
		25 g	8086385	DARQ-R-A-S17-S12-17
		29 g	8082122	DARQ-R-A-S17-S11-17
		34 g	8096914	DARQ-R-A-S17-S9-17
		36 g	8086384	DARQ-R-A-S17-S8-17
		95 g	8082135	DARQ-R-A-S17-S14-17-P5
		125 g	8086389	DARQ-R-A-S17-S12-17-P5
		145 g	8082134	DARQ-R-A-S17-S11-17-P5
		190 g	8082143	DARQ-R-A-S17-S14-17-P10
		1,450 g	8082148	DARQ-R-A-S17-S11-17-P50
	22 mm	46 g	8082126	DARQ-R-A-S22-S17-22
		52 g	8082125	DARQ-R-A-S22-S16-22
		62 g	8082124	DARQ-R-A-S22-S14-22
		75 g	8086386	DARQ-R-A-S22-S11-22
		230 g	8082137	DARQ-R-A-S22-S17-22-P5
		310 g	8082136	DARQ-R-A-S22-S14-22-P5
		460 g	8082144	DARQ-R-A-S22-S17-22-P10
		2,300 g	8082149	DARQ-R-A-S22-S17-22-P50
	27 mm	80 g	8082127	DARQ-R-A-S27-S22-27
		121 g	8086387	DARQ-R-A-S27-S17-27
		400 g	8082138	DARQ-R-A-S27-S22-27-P5
	36 mm	140 g	8096913	DARQ-R-A-S27-S14-27
		215 g	8082128	DARQ-R-A-S36-S27-36
		286 g	8096915	DARQ-R-A-S36-S22-36
		1,075 g	8082139	DARQ-R-A-S36-S27-36-P5
	46 mm	410 g	8082129	DARQ-R-A-S46-S36-46
		618 g	8215769	DARQ-R-A-S46-S27-46
		709 g	8215771	DARQ-R-A-S46-S22-46

Mounting kit DARQ			
	Product weight	Part no.	Type
	232 g	8088299	DARQ-K-V-F04S11-F03S9-R1

Accessories

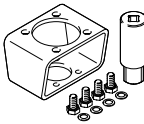
Mounting kit DARQ			
	Product weight	Part no.	Type
	255 g	8088301	DARQ-K-V-F05S14-F03S9-R1
	342 g	8088297	DARQ-K-V-F05S14-F04S11-R1
	563 g	8088302	DARQ-K-V-F07S17-F04S11-R1
	771 g	8088303	DARQ-K-V-F07S17-F05S14-R1
	1,515 g	8088300	DARQ-K-V-F10S22-F05S14-R1
	1,977 g	8215767	DARQ-K-V-F10S27-F07S17-R1
	2,010 g	8088298	DARQ-K-V-F10S22-F07S17-R1

Mounting flange adapter DARQ-B-...-R1					
	Connection 1, design	Connection 2, design	Product weight	Part no.	Type
	Hole pattern 04, Hole pattern 05	Hole pattern 03, Hole pattern 04	120 g	8087462	DARQ-B-F0405-F0304-R1
	Hole pattern 05, Hole pattern 07	Hole pattern 04, Hole pattern 05	300 g	8087463	DARQ-B-F0507-F0405-R1
	Hole pattern 07, Port pattern 10	Hole pattern 05, Hole pattern 07	1,610 g	8087465	DARQ-B-F0710-F0507-R1
	Port pattern 10, Port pattern 12	Port pattern 10	950 g	8087464	DARQ-B-F1012-F10-R1

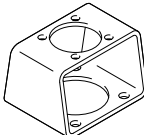
Mounting kit DARQ-K-V/DARQ-K-Z								
	Design	Connection 1, design	Connection 2, design	Product weight	Part no.	Type		
	Square socket and square drive, Assembly kit	SW9, Hole pattern 03	SW9, Hole pattern 03	392 g	8084186	DARQ-K-V-F03S9-F03S9-R13		
				410 g	8084187	DARQ-K-V-F04S11-F03S9-R13		
		SW14, Hole pattern 04	SW11, Hole pattern 04	480 g	8084188	DARQ-K-V-F04S11-F04S11-R13		
				SW14, Hole pattern 05	SW9, Hole pattern 03	630 g	8084189	DARQ-K-V-F05S14-F03S9-R13
						SW11, Hole pattern 04	725 g	8084190
		SW17, Hole pattern 07	SW14, Hole pattern 05	SW14, Hole pattern 05	830 g	8084191	DARQ-K-V-F05S14-F05S14-R13	
				SW11, Hole pattern 04	823 g	8084192	DARQ-K-V-F07S17-F04S11-R13	
					SW14, Hole pattern 05	926 g	8084193	DARQ-K-V-F07S17-F05S14-R13
		SW14, Hole pattern 07	SW14, Hole pattern 07	980 g	8084194	DARQ-K-V-F07S17-F07S14-R13		
				SW17, Hole pattern 0705	SW9, Hole pattern 0403	866 g	8132814	DARQ-K-V-F07S17-F03S9-R13
		SW22, Hole pattern 07	SW11, Hole pattern 05	986 g	8084195	DARQ-K-V-F07S22-F05S11-R13		
		SW22, Port pattern 10	SW11, Hole pattern 04	1,410 g	8133487	DARQ-K-V-F10S22-F04S11-R13		
				SW14, Hole pattern 05	1,432 g	8084196	DARQ-K-V-F10S22-F05S14-R13	
				SW17, Hole pattern 07	2,045 g	8084197	DARQ-K-V-F10S22-F07S17-R13	
				SW22, Port pattern 10	2,113 g	8084198	DARQ-K-V-F10S22-F10S22-R13	
		SW27, Port pattern 10	SW14, Hole pattern 05	1,935 g	8084199	DARQ-K-V-F10S27-F05S14-R13		
SW14, Hole pattern 07	2,134 g			8086439	DARQ-K-V-F10S27-F07S14-R13			
SW17, Hole pattern 07	2,116 g			8084200	DARQ-K-V-F10S27-F07S17-R13			

Accessories

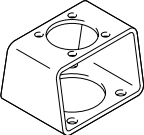
Mounting kit DARQ-K-V/DARQ-K-Z

	Design	Connection 1, design	Connection 2, design	Product weight	Part no.	Type
	Square socket and square drive, Assembly kit	SW27, Port pattern 12	SW14, Hole pattern 05	2,728 g	8133486	DARQ-K-V-F12S27-F05S14-R13
			SW14, Hole pattern 07	2,655 g	8131545	DARQ-K-V-F12S27-F07S14-R13
			SW17, Hole pattern 07	2,615 g	8084201	DARQ-K-V-F12S27-F07S17-R13
			SW22, Port pattern 10	2,753 g	8084202	DARQ-K-V-F12S27-F10S22-R13
			SW27, Port pattern 12	3,552 g	8084203	DARQ-K-V-F12S27-F12S27-R13
	Two-flats and male square, Assembly kit	SW9, Hole pattern 03	SW9, Hole pattern 03	385 g	8085017	DARQ-K-Z-F03S9-F03S9-R13
				400 g	8085016	DARQ-K-Z-F04S11-F03S9-R13
		SW11, Hole pattern 04	SW11, Hole pattern 04	465 g	8085018	DARQ-K-Z-F04S11-F04S11-R13
				620 g	8085019	DARQ-K-Z-F05S14-F03S9-R13
		SW14, Hole pattern 05	SW9, Hole pattern 03	710 g	8085020	DARQ-K-Z-F05S14-F04S11-R13
				795 g	8085021	DARQ-K-Z-F05S14-F05S14-R13
				810 g	8085022	DARQ-K-Z-F07S17-F04S11-R13
		SW17, Hole pattern 07	SW11, Hole pattern 04	890 g	8085023	DARQ-K-Z-F07S17-F05S14-R13
				945 g	8085024	DARQ-K-Z-F07S17-F07S14-R13
				1,396 g	8085026	DARQ-K-Z-F10S22-F05S14-R13
		SW22, Port pattern 10	SW14, Hole pattern 05	1,970 g	8085027	DARQ-K-Z-F10S22-F07S17-R13
				1,980 g	8085025	DARQ-K-Z-F10S22-F10S22-R13

Mounting flange adapter DARQ-B-...-R13

	Connection 1, design	Connection 2, design	Product weight	Part no.	Type
	Hole pattern 03	Hole pattern 03	260 g	8082977	DARQ-B-F03-F03-R13
	Hole pattern 04	Hole pattern 04	270 g	8082978	DARQ-B-F04-F03-R13
			275 g	8082979	DARQ-B-F04-F04-R13
	Hole pattern 05	Hole pattern 04	1,375 g	8083004	DARQ-B-F04-F04-R13-P5
			442 g	8082980	DARQ-B-F05-F03-R13
			461 g	8082981	DARQ-B-F05-F04-R13
			2,305 g	8083005	DARQ-B-F05-F04-R13-P5
			478 g	8082982	DARQ-B-F05-F05-R13
	Hole pattern 07	Hole pattern 05	2,390 g	8083006	DARQ-B-F05-F05-R13-P5
			514 g	8082983	DARQ-B-F07-F04-R13
			530 g	8082984	DARQ-B-F07-F05-R13
			2,650 g	8083007	DARQ-B-F07-F05-R13-P5
			583 g	8082985	DARQ-B-F07-F07-R13
	Port pattern 10	Hole pattern 07	2,915 g	8083008	DARQ-B-F07-F07-R13-P5
			836 g	8082986	DARQ-B-F10-F05-R13
920 g			8082987	DARQ-B-F10-F07-R13	
4,600 g			8083009	DARQ-B-F10-F07-R13-P5	
1,037 g			8082988	DARQ-B-F10-F10-R13	
Port pattern 12	Hole pattern 07	5,185 g	8083010	DARQ-B-F10-F10-R13-P5	
		1,504 g	8082989	DARQ-B-F12-F07-R13	

Accessories

Mounting flange adapter DARQ-B-...-R13					
	Connection 1, design	Connection 2, design	Product weight	Part no.	Type
	Port pattern 12	Port pattern 10	1,688 g	8082990	DARQ-B-F12-F10-R13
		Port pattern 12	1,802 g	8082991	DARQ-B-F12-F12-R13
	Port pattern 14	Port pattern 10	1,775 g	8082992	DARQ-B-F14-F10-R13
		Port pattern 12	1,889 g	8082993	DARQ-B-F14-F12-R13
		Port pattern 14	1,976 g	8082994	DARQ-B-F14-F14-R13
	Port pattern 16	Port pattern 12	2,648 g	8082995	DARQ-B-F16-F12-R13
		Port pattern 14	2,792 g	8082996	DARQ-B-F16-F14-R13
		Port pattern 16	2,844 g	8082997	DARQ-B-F16-F16-R13
	Port pattern 25	Port pattern 14	14,734 g	8082998	DARQ-B-F25-F14-R13
		Port pattern 16	15,384 g	8082999	DARQ-B-F25-F16-R13
		Port pattern 25	18,895 g	8083000	DARQ-B-F25-F25-R13
	Port pattern 30	Port pattern 16	16,740 g	8083001	DARQ-B-F30-F16-R13
		Port pattern 25	20,250 g	8083002	DARQ-B-F30-F25-R13
		Port pattern 30	21,644 g	8083003	DARQ-B-F30-F30-R13