



**Update 09/2016**  
Rotary valves



# Building HVAC components

Belparts is specialized in the development, production and marketing of components for the automation of HVAC-systems in buildings. We design field components that exactly match market needs. Throughout the development process, we ensure functionality, quality and reliability.

Belparts produces field components for all areas of HVAC, whether production, distribution, or terminal control of heating and cooling, as well as ventilation. Whatever the HVAC-application, we have it covered.

Our field components are designed to be smoothly integrated with any Building Management System (BMS), Direct Digital Controller (DDC), Programmable Logic Controller (PLC), and Supervisory Control and Data Acquisition (SCADA) system.

## A leading player for more than two decades

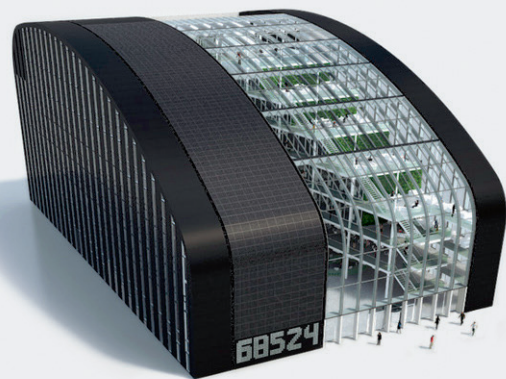
Belparts was established in 1987 by professionals from the HVAC-industry. Since then, we have developed a reputation for intelligent product design and reliable solutions. Our company has enjoyed a healthy success ever since its foundation.

## Market driven innovation

We constantly strive for product and system optimizations. Our engineers incorporate the latest proven technological developments into the design of new HVAC-components and understand how to combine high quality with product affordability.

## Shared competency and values

The Belparts staff shares a common passion for technology, product design, quality, and HVAC-applications. Each of our team members is both customer and results-oriented, and is trained to think 'innovation'. Integrity and responsibility are prerequisites for every employee.



### energetx



Belparts produces a broad range of components that save costs at every single point in your HVAC-system. By selecting the optimal component for each individual situation, considerable amounts of energy can be saved. Our **energetx**-range of products includes control valves, rotating valves, valve and air damper actuators, terminal control valves, and sensors.

### dynamx



Based on our revolutionary Dynamic Flow Networking (DFN) concept, our **dynamx**-valves adjust the flow of energy exactly to the desired conditions. This ensures that only the exact amount of energy is delivered at the right place and at the right time. The result is optimal comfort and reduced energy costs.

# energetx

## 3. Rotary valves



<b>Ball valves</b>	<b>6</b>
<b>Mixing valves</b>	<b>8</b>
<b>Butterfly valves</b>	<b>10</b>

## Product key

The product identification key contains all essential data defining the unique features of the rotary valve.

Example: type VHD2F065.M125.4S

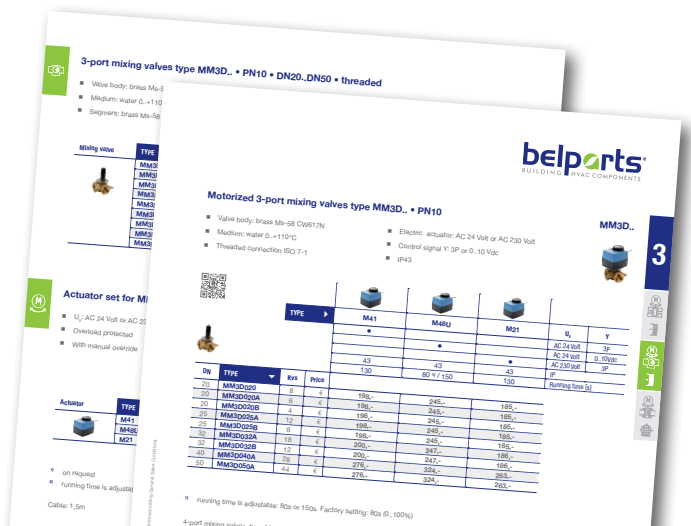
VHD	2	F	065	M	125	4	S
Valve			Actuator				
<p><b>Type of rotary valve</b></p> <p><b>B..</b> ball valve  <b>M..</b> mixing valve  <b>MM..</b> mixing valve (brass)  <b>V..</b> butterfly valve</p>							
<p><b>Number of ports</b></p> <p><b>2</b> 2-port  <b>3</b> 3-port</p>							
<p><b>Connection type</b></p> <p><b>D</b> threaded  <b>F</b> flanged</p>							
<p><b>DN size</b></p> <p><b>065</b> DN65</p>							
<p><b>Type of actuator</b></p> <p><b>M</b> actuator set for butterfly valves</p>							
<p><b>Torque</b></p> <p><b>125</b> 25Nm</p>							
<p><b>Power supply</b></p> <p><b>2</b> AC 230 Volt  <b>4</b> AC 24 Volt</p>							
<p><b>Auxiliary switch</b></p> <p><b>-S</b> integrated auxiliary switch(es)</p>							

## Order reference




The Belparts motorized rotary valves can be ordered with a single order reference number. The selection table shows nominal size DN and Kvs value on the right page (odd page numbers). Do you want to order valve body and electric actuator as separate parts, you will find all information required on the left page (*even page numbers*).










Please feel free to contact us for free selection and calculation support of the control valves. We will be pleased to help you determine the most energy efficient solution.



## Overview

Ball valves	TYPE			Material valve body	Material ball	T° range	DN	Page
	B2D..	●	<sup>1)</sup>	nickel plates brass	chromes brass	0..+100°C	15..50	6

Mixing valves	TYPE			Material valve body	Material segment	Connection	T° range	DN	Page
	MM3D..	●		brass	brass	inside thread ISO 7-1	0..+110°C	20..50	8
	MM4D..		●	brass	brass	inside thread ISO 7-1	0..+110°C	20..50	<sup>1)</sup>

Butterfly valves	TYPE			Material valve body	$\Delta p_s$ [bar]	Material disc	T° range	DN	Page
	V2F..	●		GG25	2,5	Cupro aluminium	0..+110°C	32..150	10
	V2F..L		●	GG25	2,5	GG25/Rilsan	0..+110°C	32..150	<sup>1)</sup>
	VB2F..	●		~ GG25	3,5 / 10 / 12	~ GGG40 / ~ 1.4408	0..+120°C	25..500	12
	VB2F..L		●	~ GG25	3,5 / 10 / 12	~ GGG40 / ~ 1.4408	0..+120°C	25..500	<sup>1)</sup>


<sup>1)</sup> on request

$\Delta p_s$  maximum close-off pressure

As a standard, the butterfly valves are of the 'wafer' type (with centering lugs). Alternatively butterfly valves are can also be delivered with tapped lugs (threaded) , LUG versions. These 'LUG' types are non stock items.

## 2-port ball valves type B2D.. • PN16 • DN10..DN50 • inside thread




- Valve body: nickel plated brass
- Medium: water 0...+100°C
- Ball: brass with chrome plating
- Inside thread ISO 7-1
- DN10..DN50
- Tight sealing

Ball valve	TYPE	DN	Kvs [m³/h]	↻	PN	Price €/pc
	B2D010	10	9,4	90°	16bar	1)
	B2D015	15	39,2	90°	16bar	1)
	B2D020	20	62	90°	16bar	1)
	B2D025	25	85,3	90°	16bar	1)
	B2D032	32	121	90°	16bar	1)
	B2D040	40	292	90°	16bar	1)
	B2D050	50	397	90°	16bar	1)

3-port ball valves: on request

## Actuator set for B2D..

- U<sub>v</sub>: AC 24 Volt or AC 230 Volt
- Overload protected
- With manual override
- Y: on/off
- IP54
- Running time: <75s/150s

Actuator	TYPE	↻	⊙	↻	Torque	AC 24 Volt	AC 230 Volt	on/off	0..10Vdc	VA	Price €/pc
	MB.SM2A	150s	-	90°	20Nm		●	●	1)	6	1)
	MB.SM4A	150s	-	90°	20Nm	●		●	1)	4	1)
	MB.GM2A	150s	-	90°	40Nm		●	●	1)	9	1)
	MB.GM4A	150s	-	90°	40Nm	●		●	1)	6	1)
	MB.SF2A	<75s	<20s	90°	20Nm		●	●	1)	18	1)
	MB.SF4A	<75s	<20s	90°	20Nm	●		●	1)	7,5	1)

1) on request

## Motorized 2-port ball valves type B2D.. • PN16

**B2D..**

- Valve body: nickel plated brass
- Medium: water 0...+100°C
- Inside thread ISO 7-1
- Electric actuator: AC 24 Volt or AC 230 Volt
- Control signal Y: on/off or 0..10 Vdc
- IP54



TYPE	SM4A	SM2A	GM4A	GM2A	U <sub>v</sub>	Y
	●		●		AC 24 Volt	on/off
		●		●	AC 230 Volt	on/off
	1) <sup>1)</sup>	1) <sup>1)</sup>	1) <sup>1)</sup>	1) <sup>1)</sup>	2 x SPDT	
	1	1	1	1	Cable [m]	
	54	54	54	54	IP	

DN	TYPE	Kvs	Price				
10	<b>B2D010</b>	9,4	€	<b>280,-</b>	<b>280,-</b>	-	-
15	<b>B2D015</b>	39,2	€	<b>286,-</b>	<b>286,-</b>	-	-
20	<b>B2D020</b>	62	€	<b>300,-</b>	<b>300,-</b>	-	-
25	<b>B2D025</b>	85,3	€	<b>319,-</b>	<b>319,-</b>	-	-
32	<b>B2D032</b>	121	€	<b>362,-</b>	<b>362,-</b>	-	-
40	<b>B2D040</b>	292	€	-	-	<b>552,-</b>	<b>552,-</b>
50	<b>B2D050</b>	397	€	-	-	<b>601,-</b>	<b>601,-</b>


<sup>1)</sup> auxiliary switch or feedback potentiometer to be ordered separately:

	<b>S1A</b>	Auxiliary switch for MB.SM..., MB.GM.. 1xSPDT 3A@230Vac	<b>38,-</b>
	<b>S2A</b>	Auxiliary switch for MB.SM..., MB.GM.. 2xSPDT 3A@230Vac	<b>50,-</b>
	<b>P..A</b>	Feedback potentiometer	<sup>2)</sup>

<sup>2)</sup> on request


### 3-port mixing valves type MM3D.. • PN10 • DN20..DN50 • threaded

- Valve body: brass Ms-58 CW617N
- Medium: water 0..+110°C
- Segment: brass Ms-58 CW617N
- Threaded connection ISO 7-1
- DN20..DN50

Mixing valve	TYPE	DN	Kvs [m³/h]	↻	PN	Price €/pc
	MM3D020	20	8	90°	10bar	<sup>1)</sup>
	MM3D020A	20	6	90°	10bar	<sup>1)</sup>
	MM3D020B	20	4	90°	10bar	<sup>1)</sup>
	MM3D025A	25	12	90°	10bar	<sup>1)</sup>
	MM3D025B	25	8	90°	10bar	<sup>1)</sup>
	MM3D032A	32	18	90°	10bar	<sup>1)</sup>
	MM3D032B	32	12	90°	10bar	<sup>1)</sup>
	MM3D040A	40	28	90°	10bar	<sup>1)</sup>
	MM3D050A	50	44	90°	10bar	<sup>1)</sup>

### Actuator set for MM3D..

- U<sub>v</sub>: AC 24 Volt or AC 230 Volt
- Overload protected
- With manual override
- Control signal Y: 3P or 0..10 Vdc
- IP43
- Running time: 150s

Actuator	TYPE	↻	Torque	AC 24 Volt	AC 230 Volt	3P	0..10Vdc	Running time	VA	Price €/pc
	M41	90°	6Nm	●		●		130	3,5	<sup>1)</sup>
	M48U	90°	6Nm	●			●	80 <sup>2)</sup>	3	<sup>1)</sup>
	M21	90°	6Nm		●	●		130	3,5	<sup>1)</sup>

<sup>1)</sup> on request

<sup>2)</sup> running time is adjustable: 80s or 150s. Factory setting: 80s (0..100%)

Cable: 1,5m






## Motorized 3-port mixing valves type MM3D.. • PN10

MM3D..

- Valve body: brass Ms-58 CW617N
- Medium: water 0..+110°C
- Threaded connection ISO 7-1
- Electric actuator: AC 24 Volt or AC 230 Volt
- Control signal Y: 3P or 0..10 Vdc
- IP43



TYPE				U <sub>v</sub>	Y
	•			AC 24 Volt	3P
		•		AC 24 Volt	0..10Vdc
			•	AC 230 Volt	3P
	43	43	43	IP	
	130	80 <sup>1)</sup> / 150	130	Running time [s]	

DN	TYPE	Kvs	Price			
20	MM3D020	8	€	198,-	245,-	185,-
20	MM3D020A	6	€	198,-	245,-	185,-
20	MM3D020B	4	€	198,-	245,-	185,-
25	MM3D025A	12	€	198,-	245,-	185,-
25	MM3D025B	8	€	198,-	245,-	185,-
32	MM3D032A	18	€	200,-	247,-	186,-
32	MM3D032B	12	€	200,-	247,-	186,-
40	MM3D040A	28	€	276,-	324,-	263,-
50	MM3D050A	44	€	276,-	324,-	263,-


<sup>1)</sup> running time is adjustable: 80s or 150s. Factory setting: 80s (0..100%)

4-port mixing valves, type MM4D.. : on request.

3/4-port flanged mixing valves: on request.

## Butterfly valves type V2F.. • DN32..DN150 • flanged connection







- Valve body: cast iron GG-25
- Medium: water 0...+110°C
- Disc: cupro aluminium
- Flanged connection PN6/10/16/ASA150 (wafer)
- Liner: EPDM
- DN32..DN150

Butterfly valve	TYPE	DN	Kvs [m <sup>3</sup> /h]	$\Delta p_{max}$	PFA	Price €/pc
	V2F032	32	62	2,5bar	6bar	<sup>1)</sup>
	V2F040	40	62	2,5bar	6bar	<sup>1)</sup>
	V2F050	50	79	2,5bar	6bar	<sup>1)</sup>
	V2F065	65	174	2,5bar	6bar	<sup>1)</sup>
	V2F080	80	275	2,5bar	6bar	<sup>1)</sup>
	V2F100	100	496	2,5bar	6bar	<sup>1)</sup>
	V2F125	125	883	2,5bar	6bar	<sup>1)</sup>
	V2F150	150	1212	2,5bar	6bar	<sup>1)</sup>

**PFA:** maximum system pressure allowed

## Actuator set for V2F..

- U<sub>v</sub>: AC 24 Volt or AC 230 Volt
- Overload protected
- With manual override
- Y: on/off
- IP54
- Running time: <75s or 150s

Actuator	TYPE				Torque	AC 24 Volt	AC 230 Volt	on/off	SPDT	VA	IP	Price €/pc
	MV.08.SM2A	150s	-	90°	20Nm		●	●	-	6	54	<sup>1)</sup>
	MV.08.SM2A.S1	150s	-	90°	20Nm		●	●	1x	6	54	<sup>1)</sup>
	MV.08.SM2A.S2	150s	-	90°	20Nm		●	●	2x	6	54	<sup>1)</sup>
	MV.08.SM4A	150s	-	90°	20Nm	●		●	-	4	54	<sup>1)</sup>
	MV.08.SM4A.S1	150s	-	90°	20Nm	●		●	1x	4	54	<sup>1)</sup>
	MV.08.SM4A.S2	150s	-	90°	20Nm	●		●	2x	4	54	<sup>1)</sup>
	MV.08.GM2A	150s	-	90°	40Nm		●	●	-	9	54	<sup>1)</sup>
	MV.08.GM2A.S1	150s	-	90°	40Nm		●	●	1x	9	54	<sup>1)</sup>
	MV.08.GM2A.S2	150s	-	90°	40Nm		●	●	2x	9	54	<sup>1)</sup>
	MV.08.GM4A	150s	-	90°	40Nm	●		●	-	6	54	<sup>1)</sup>
	MV.08.GM4A.S1	150s	-	90°	40Nm	●		●	1x	6	54	<sup>1)</sup>
	MV.08.GM4A.S2	150s	-	90°	40Nm	●		●	2x	6	54	<sup>1)</sup>
	MV.08.SF2A	<75s	<20s	90°	20Nm		●	●	-	18	54	<sup>1)</sup>
	MV.08.SF2A.S2	<75s	<20s	90°	20Nm		●	●	2x	18	54	<sup>1)</sup>
	MV.08.SF4A	<75s	<20s	90°	20Nm	●		●	-	7,5	54	<sup>1)</sup>
	MV.08.SF4A.S2	<75s	<20s	90°	20Nm	●		●	2x	7,5	54	<sup>1)</sup>

<sup>1)</sup> On request

## Motorized butterfly valves type V2F.. • $\Delta p_s$ 2,5 bar

V2F..



- Valve body: cast iron GG-25
- Medium: water 0...+110°C
- Wafer type <sup>1)</sup>
- Electric actuator <sup>6)</sup>: AC 24 Volt or AC 230 Volt
- Control signal Y: on/off
- IP54




TYPE	SM2A.S1	SM2A.S2	GM2A.S1	GM2A.S2	U <sub>v</sub>	Y
	●	●	●	●	AC 230 Volt <sup>2)</sup>	on/off
	1x SPDT				auxiliary switch <sup>3)</sup>	
		2x SPDT	1x SPDT	2x SPDT	auxiliary switch <sup>4)</sup>	
	20	20	40	40	Nm	
	150	150	150	150	s	
	54	54	54	54	IP <sup>7)</sup>	

DN	TYPE	Kvs	$\Delta p_s$				
			Price				
32	V2F032 <sup>5)</sup>	62	kPa	250	250	-	-
			€	<b>354,-</b>	<b>366,-</b>	-	-
40	V2F040 <sup>5)</sup>	62	kPa	250	250	-	-
			€	<b>354,-</b>	<b>366,-</b>	-	-
50	V2F050	79	kPa	250	250	-	-
			€	<b>365,-</b>	<b>376,-</b>	-	-
65	V2F065	174	kPa	250	250	-	-
			€	<b>372,-</b>	<b>383,-</b>	-	-
80	V2F080	275	kPa	250	250	250	250
			€	<b>393,-</b>	<b>403,-</b>	<b>501,-</b>	<b>516,-</b>
100	V2F100	496	kPa	-	-	250	250
			€	-	-	<b>529,-</b>	<b>542,-</b>
125	V2F125	883	kPa	-	-	250	250
			€	-	-	<b>550,-</b>	<b>566,-</b>
150	V2F150	1212	kPa	-	-	250	250
			€	-	-	<b>583,-</b>	<b>598,-</b>

- <sup>1)</sup> tapped lugs (LUG series) instead of centering lugs: on request
- <sup>2)</sup> also available for power supply U<sub>v</sub>: AC 24 Volt (no extra cost)
- <sup>3)</sup> integrated auxiliary end switches
- <sup>4)</sup> auxiliary end switches to be mounted as separate accessory
- <sup>5)</sup> butterfly valves DN32 and DN40 are only available with stainless steel disc
- <sup>6)</sup> motorized butterfly valves are delivered as a pre assembled unit from our factory
- <sup>7)</sup> actuator set IP65 on request

## Butterfly valves type VB2F.. • DN25..DN500 • flanged connection






- Valve body: cast iron
- Medium: water 0..+120°C
- Disc: Nylon 11 (≥ DN50)
- Flanged connection PN6/10/16 (wafer)
- Liner: EPDM
- DN25..DN500

Butterfly valve	TYPE	DN	Kvs [m³/h]	Δp <sub>s</sub> [bar]	PFA [bar]	Price €/pc
	VB2F025A	25	52	3,5	16	<sup>1)</sup>
	VB2F032A	32	72	3,5	16	<sup>1)</sup>
	VB2F040A	40	126	3,5	16	<sup>1)</sup>
	VB2F050A	50	124	3,5 / 12	16	<sup>1)</sup>
	VB2F065A	65	243	3,5 / 12	16	<sup>1)</sup>
	VB2F080A	80	397	3,5 / 12	16	<sup>1)</sup>
	VB2F100A	100	723	3,5	16	<sup>1)</sup>
	VB2F125A	125	1083	3,5	16	<sup>1)</sup>
	VB2F150A	150	1591	3,5	16	<sup>1)</sup>
	VB2F200A	200	2852	3,5	16	<sup>1)</sup>
	VB2F250A	250	4670	3,5	16	<sup>1)</sup>
	VB2F300A	300	6946	3,5	16	<sup>1)</sup>
	VB2F350A	350	9063	3,5	16	<sup>1)</sup>
	VB2F400A	400	12044	3,5	16	<sup>1)</sup>
	VB2F450A	450	14804	3,5	16	<sup>1)</sup>
VB2F500A	500	19212	3,5	16	<sup>1)</sup>	

PFA: maximum system pressure allowed

## Actuator set for VB2F..

- U<sub>v</sub>: AC 24 Volt or AC 230 Volt
- Overload protected
- With manual override
- Y: on/off
- IP54
- Running time: <75s or 150s

Actuator	TYPE				Torque	AC 24 Volt	AC 230 Volt	on/off	SPDT	VA	IP	Price €/pc
	MVB2F.SM2A	150s	-	90°	20Nm	-	●	●	-	6	54	<sup>1)</sup>
	MVB2F.SM2A.S1	150s	-	90°	20Nm	-	●	●	1x	6	54	<sup>1)</sup>
	MVB2F.SM2A.S2	150s	-	90°	20Nm	-	●	●	2x	6	54	<sup>1)</sup>
	MVB2F.SM4A	150s	-	90°	20Nm	●	-	●	-	4	54	<sup>1)</sup>
	MVB2F.SM4A.S1	150s	-	90°	20Nm	●	-	●	1x	4	54	<sup>1)</sup>
	MVB2F.SM4A.S2	150s	-	90°	20Nm	●	-	●	2x	4	54	<sup>1)</sup>
	MVB2F.GM2A	150s	-	90°	40Nm	-	●	●	-	9	54	<sup>1)</sup>
	MVB2F.GM2A.S1	150s	-	90°	40Nm	-	●	●	1x	9	54	<sup>1)</sup>
	MVB2F.GM2A.S2	150s	-	90°	40Nm	-	●	●	2x	9	54	<sup>1)</sup>
	MVB2F.GM4A	150s	-	90°	40Nm	●	-	●	-	6	54	<sup>1)</sup>
	MVB2F.GM4A.S1	150s	-	90°	40Nm	●	-	●	1x	6	54	<sup>1)</sup>
	MVB2F.GM4A.S2	150s	-	90°	40Nm	●	-	●	2x	6	54	<sup>1)</sup>

<sup>1)</sup> On request

▲ standard

## Motorized butterfly valves type VB2F.. • $\Delta p_s$ 3,5 bar

- Valve body: cast iron
- Medium: water 0..+120°C
- Wafer type
- Electric actuator : AC 24 Volt or AC 230 Volt
- Control signal Y: on/off
- IP54 or IP65

VB2F..



TYPE	SM2A.S1	SM2A.S2	GM2A.S1	GM2A.S2	BS024..	BS230..	$U_v$	Y
	●	●	●	●	1)	●	AC 230 Volt 1)	on/off
	1x SPDT				2x SPDT	2x SPDT	auxiliary switch 2)	auxiliary switch 3)
	20	20	40	40	68..565	68..2034	Nm	
	150	150	150	150	60	36..132	s	
	54	54	54	54	65	65	IP	

DN	TYPE	Kvs	$\Delta p_s$		Price						
			kPa	€							
25	VB2F025A	52	kPa	350	350	-	-	-	-	-	-
			€	340,-	352,-	-	-	-	-	-	-
32	VB2F032A	72	kPa	350	350	-	-	-	-	-	-
			€	347,-	358,-	-	-	-	-	-	-
40	VB2F040A	126	kPa	350	350	-	-	-	-	-	-
			€	347,-	358,-	-	-	-	-	-	-
50	VB2F050A	124	kPa	350	350	-	-	1200	1200		
			€	357,-	368,-	-	-	1.305,-	1.329,-		
65	VB2F065A	243	kPa	350	350	-	-	1200	1200		
			€	364,-	375,-	-	-	1.319,-	1.343,-		
80	VB2F080A	397	kPa	350	350	-	-	1200	1200		
			€	385,-	395,-	-	-	1.328,-	1.352,-		
100	VB2F100A	723	kPa	-	-	350	350	350	350		
			€	-	-	518,-	531,-	1.352,-	1.376,-		
125	VB2F125A	1083	kPa	-	-	350	350	350	350		
			€	-	-	539,-	554,-	1.392,-	1.416,-		
150	VB2F150A	1591	kPa	-	-	-	-	350	350		
			€	-	-	-	-	1.407,-	1.431,-		
200	VB2F200A	2852	kPa	-	-	-	-	350	350		
			€	-	-	-	-	1.827,-	1.640,-		
250	VB2F250A	4670	kPa	-	-	-	-	350	350		
			€	-	-	-	-	1.966,-	1.779,-		
300	VB2F300A	6946	kPa	-	-	-	-	350	350		
			€	-	-	-	-	3.183,-	2.590,-		
350	VB2F350A	9063	kPa	-	-	-	-	350	350		
			€	-	-	-	-	3.515,-	2.922,-		
400	VB2F400A	12044	kPa	-	-	-	-	350	350		
			€	-	-	-	-	4.056,-	3.463,-		
450	VB2F450A	14804	kPa	-	-	-	-	350	350		
			€	-	-	-	-	4.418,-	3.825,-		
500	VB2F500A	19212	kPa	-	-	-	-	-	350		
			€	-	-	-	-	-	4.364,-		

1) also available for power supply  $U_v$ : AC 24 Volt

2) integrated auxiliary end switches

3) auxiliary end switches to be mounted as separate accessory