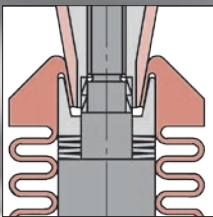


Richter Lined Bottom Drain Valves



Lining pure PTFE,
optionally PTFE antistatic
Bellows stem seal
-60 to 180 °C (-75 to 360 °F)



RICHTER
Process Pumps & Valves

IDEX
FLUID & METERING

Richter bottom drain valves

Fields of application

Richter bottom drain valves are highly corrosion-resistant and hermetically sealed. They are particularly suitable for applications involving highly aggressive and ultrapure liquids, installed under PTFE- or glass-lined vessels or such made of e.g. Hastelloy®, titanium etc.

The plug opens into the vessel and can therefore penetrate light sedimentation and incrustations. BAV/BAVM bottom drain valves have universal chemical resistance and have a cost and lead time advantage over to valves made of special metals.

Operating range

- -60 to 180 °C (DN 100/80, 150/100),
-75 to 360 °F (4"/3", 6"/4")
- -60 to 160 °C (DN 80/50), -75 to 320 °F (3"/2")
- 0.1 mbar (0.001 psi) vacuum to 10 bar (145 psi) operating pressure

Product features

- Compliant with the German Clean Air Act (TA-Luft)
- Gas-tight, leakage rate in the seat to DIN EN 12266, leakage rate A: gas-tight, 0 bubbles
- Face-to-face similar to DIN 28140-1
- Flanges DIN EN 1092-2, form B (ISO 7005-2 type B) PN 16 or flanges drilled to ASME B16.5, Class 150
- Installation position vertical as standard. Different installation position on request.
- Discharge angle
 - DN 150/100 (6"/4"), 100/80 (4"/3"): 45°
 - DN 80/50 (3"/2"): 60°
- Actuation:
 - Handwheel
 - Pneumatic or electric actuators

Type codes

Manual actuation: BAV/...

Remote actuation: BAVM/...

Lining

- PTFE .../F
- Antistatic PTFE-L .../F-L

Our compact ball valves series KA-N and KAP-N are also available as vessel discharge valves. Please request separate brochure!

① Thick-walled, vacuum-proof PTFE lining

- Lining thickness: 5-6 mm (0.2 to 0.25 inch)
- FDA-compliant
- Optionally antistatic

② Pressure-bearing body

- Ductile cast iron EN-JS 1049 (≈ ASTM A395)
- Self-draining outlet nozzle prevents accumulation of condensate or medium residues
- Absorbs system pressure and pipe forces

③ Hermetic sealing with PTFE bellows

Protects the valve stem against corrosion and hermetically seals the product chamber against to the atmosphere. Standard PTFE bellows up to 10 bar (145 psi) operating pressure

④ Safety stuffing box

- Adjustable from outside as standard
- Valve design complies with the German Clean Air Act (TA-Luft)

⑤ Replaceable seat

- Modified pure PTFE, no fillers
- Dimensional adjustments possible if required

⑥ Pressure and temperature-stable shut-off cap

made of PFA or PTFE with metal core, opening into the vessel

⑦ Accurate guidance of the valve stem

due to the metallic stop and centering of body and cover

- Thrust ring adjustable from outside
- Applies to DN 80/50 (3"/2")

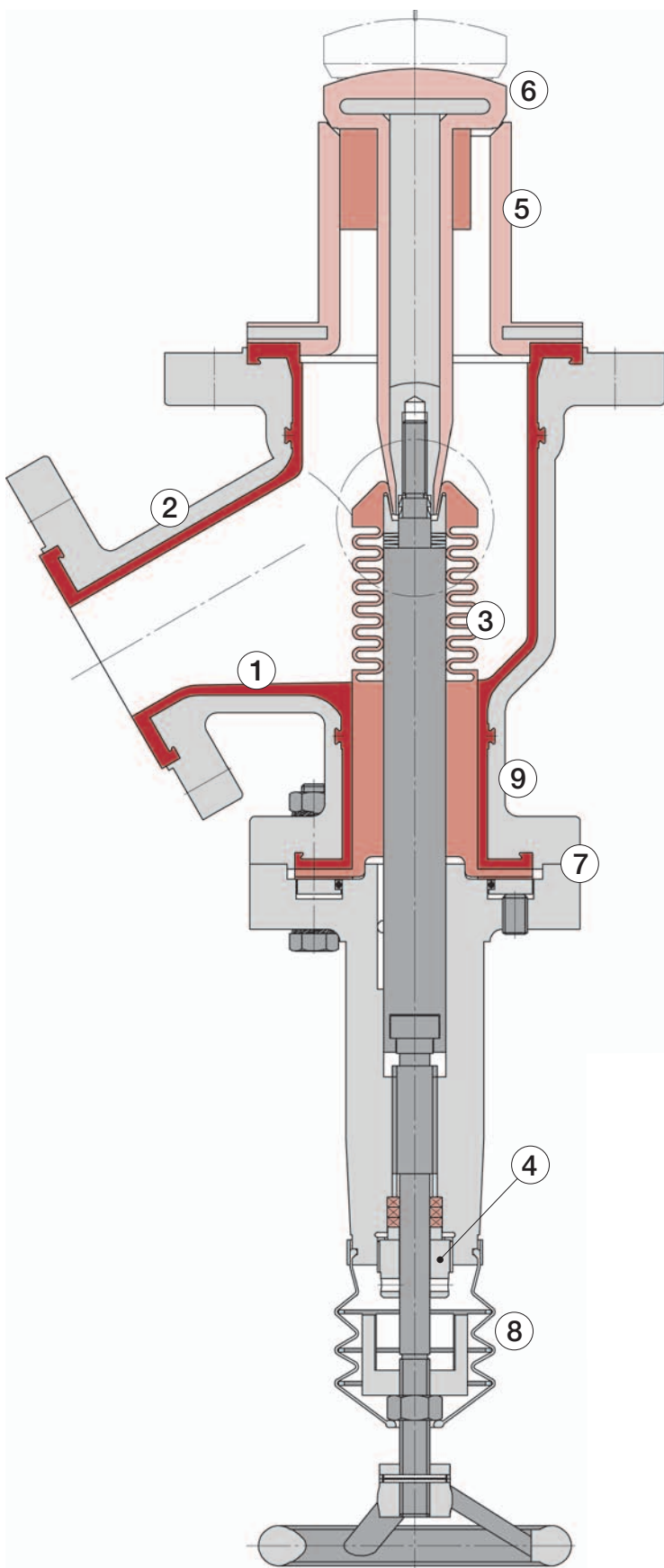
⑧ Travel stop

Protects bellows against distension

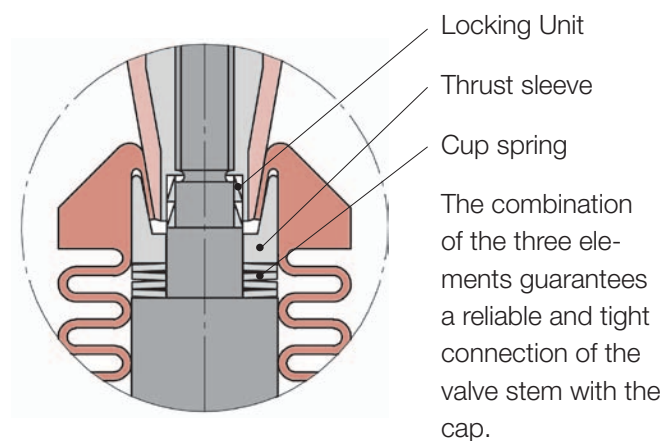
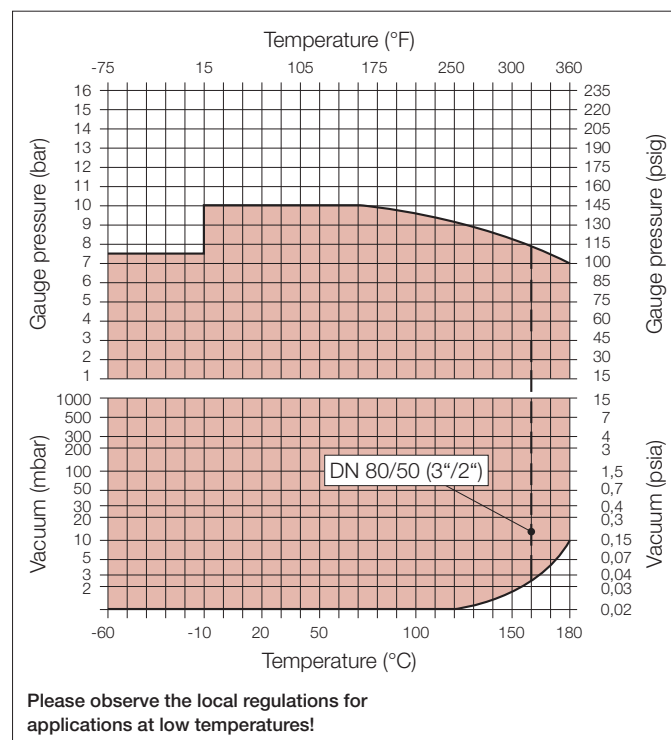
⑨ External corrosion protection

Body epoxy-coated. Stuffing box, stem, handwheel, nuts/bolts made of stainless steel





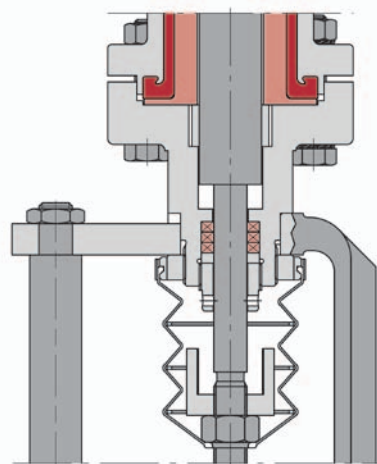
Pressure/temperature range



BAVM/F connection for actuators

for column-type actuator
(illustration on left)

for bracket-type actuator
(illustration on right)



On request, the actuators may be supplied with an additional side handwheel or a handwheel at the bottom.

Fig.: BAV/F DN 80/50 (3 1/2"), manually actuated
Sizes DN 100/80 (4 1/3") and DN 150/100 (6 1/4")
according to the same basic principle but different in
the design details, see page 4

Parts, materials, dimensions

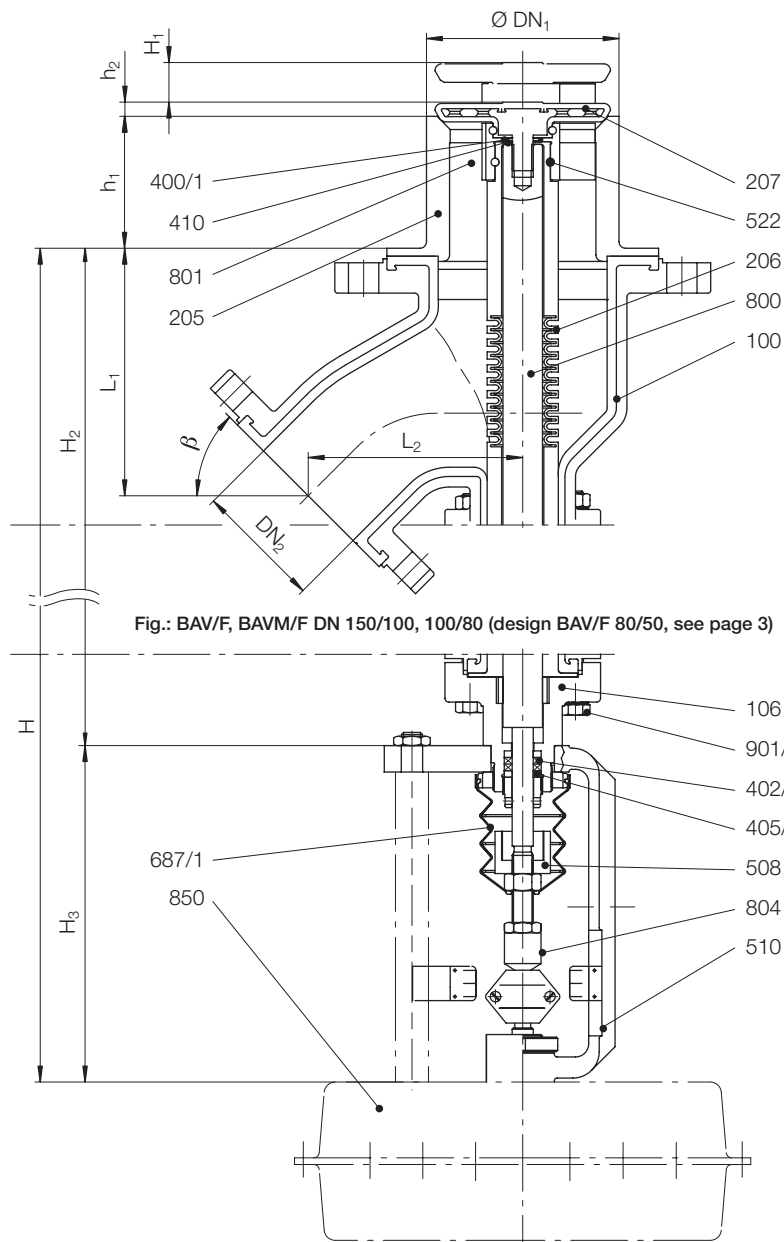


Fig.: BAV/F, BAVM/F DN 150/100, 100/80 (design BAV/F 80/50, see page 3)

Parts and materials

Item	Designation	Material
100	Body	Ductile cast iron EN-JS 1049 (≈ ASTM A395), PTFE-lined
106	Cover	Ductile cast iron EN-JS 1049 (≈ ASTM A395)
205	Seat	mod. PTFE
206	Bellows	mod. PTFE, optionally Hastelloy®
207	Cap	PFA or PTFE, steel core
210	Handwheel	Stainless steel 1.4401
300/1	Plain bearing	PTFE carbon
302/1	Guide ring	PTFE carbon
400/1	O-ring	PTFE/FKM; optionally FFKM
402/1	Packing ring	PTFE carbon
405/1	Thrust ring	Stainless steel 1.4104
410	O-ring envelope	Stainless steel
508	Travel stop*	Stainless steel
510	Bracket	Steel, epoxy-coated
522	Round cord	PTFE
523	Stroke index	Stainless steel 1.4401
687/1	Protective bellows	Rubber, with travel stop 508
800	Valve stem	Stainless steel
801	Guide	TFM-PTFE
804	Coupling	Stainless steel
850	Actuator	according to specifications
855	Stem	TFM-PTFE
901/1	Hex. screw	Stainless steel, A4-70
939/2	Spring-type pin (Travel stop)	Stainless steel

*depending on closing force

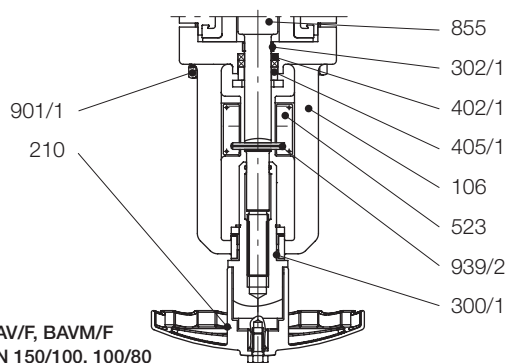


Fig.: BAV/F, BAVM/F DN 150/100, 100/80

Dimensions and weights

DN	DN ₁ mm (inch)	DN ₂ mm (inch)	L ₁ mm (inch)	L ₂ mm (inch)	H ₁ stroke mm (inch)	H ₂ mm (inch)	h ₁ mm (inch)	h ₂ mm (inch)	β degrees	Weight (manual actuation) kg lbs	
80/50 (3"/2")	80 (3,15)	50 (1,97)	135,5 (5,33)	125,5 (4,95)	20 (0,79)	261 (10,28)	80 (3,15)	21 (0,83)	60°	18	40
100/80 (4"/3")	100 (3,94)	80 (3,15)	143 (5,63)	152 (5,98)	30 (1,18)	256 (10,08)	90 (3,54)	11 (0,43)	45°	21	46
150/100 (6"/4")	150 (5,91)	100 (3,94)	188 (7,4)	162 (6,38)	30 (1,18)	279 (10,98)	100 (3,94)	10 (0,39)	45°	60	132

Dimensions for H₃ and H depend on the actuator

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