

Fig. 450 Packing ring

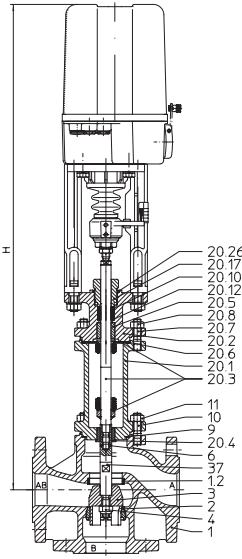
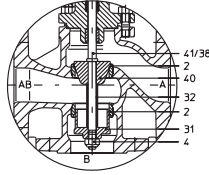


Fig. 451 Bellows seal



Diverting plug
DN40 upwards

Applications:

- Fig. 450
- Cooling water
- Cooling brine
- Warm water
- Hot water
- Steam
- Gas

Features:

- Compact design
- Precision guided stem
- Burnished stem
- Tapered seat ring
- Seat option available
- Reducible Kvs-values
- Rangability 30:1
- Guided plug
- Spring-loaded PTFE-V-ring packing unit
- Two-ply bellows seal
- Travel indicator

Fig. 451

- Refrigerant
- Cooling water
- Warm water
- Hot water
- Thermal oil
- Steam



Heights and Weights

DN		15	20	25	32	40	50	65	80	100	125	150
...450	H (mm)	564	564	568	594	600	598	634	650	669	738	800
	2.2 kN PN16 / PN25-40 (kg)	10.5/11	11.5/121.1	12.5/13.4	15.1/16	18.4/19.6	22.2/23.7	28.9/31	35.4/38	52/56	73/100	-
	5 kN	11.6/12.1	12.6/13.2	13.6/14.2	16.2/17.1	19.5/20.7	23.3/24.8	30/32.1	36.5/39.1	53/57	74/101	101/144
	H (mm)	-	-	718	744	750	748	784	800	819	886	948
	12 kN PN16 / PN25-40 (kg)	-	-	17.6/18.2	20.2/21.1	23.5/24.7	27.3/28.8	34/36.1	40.5/43.1	57/61	78/105	105/148
...451	15 kN	-	-	17.6/18.2	20.2/21.1	23.5/24.7	27.3/28.8	34/36.1	40.5/43.1	57/61	78/105	105/148
	H (mm)	749	749	753	779	769	763	869	882	898	1093	1126
	2.2 kN PN16 / PN25-40 (kg)	13.5/14.2	14.5/15.3	15.7/16.6	18.1/19.2	22.9/24.5	26.1/28	35.2/37.9	45.1/48.7	63/68	-	-
	5 kN	14.6/15.3	15.6/16.4	16.8/17.7	19.2/20.3	24/25.6	27.2/29.1	36.3/39	46.2/49.8	64/69	84/112	111/155
	H (mm)	-	-	903	929	919	913	1019	1032	1048	1241	1274
12 kN PN16 / PN25-40 (kg)	-	-	20.8/21.7	23.2/24.3	28/29.6	31.2/33.1	40.3/43	50.2/53.8	68/73	88/116	115/159	
15 kN	-	-	20.8/21.7	23.2/24.3	28/29.6	31.2/33.1	40.3/43	50.2/53.8	68/73	88/116	115/159	

Material

Figure	PN16 - 12.450 ⁶⁾ / 12.451 ⁶⁾	PN16 - 22.450 / 22.451 PN25 - 23.450 / 23.451	PN25 - 34.450 / 34.451 PN40 - 35.450 / 35.451	PN40 - 55.450 / 55.451 ⁶⁾	
Part	Description				
1	Body	EN-JL1040	EN-JS1049EN	1.0619+N	1.4408
1.2	Seat ring	1.4021+QT			-
2	Seat ring*	1.4021+QT			1.4571
3	Plug*	1.4021+QT			1.4571
5	Stem*	1.4021+QT			1.4571
6	Straight pin*	1.4310			A2
7	Mounting bonnet	EN-JS1049		1.0619+N	1.4408
9	Gasket*	CrNi laminated both sides with pure graphite			
12	V-ring unit*	PTFE			
13	Packing ring*	PTFE or pure graphite			
20.1	Bellows housing	EN-JS1049		1.0619+N	1.4408
20.2	Mounting bonnet	EN-JS1049		1.0619+N	1.4408
20.3	Stem / Bellows unit*	1.4021+QT / 1.4541			1.4571
20.6	Gasket*	CrNi laminated both sides with pure graphite			
20.10	Packing ring*	Pure graphite			
31	Plug*	1.4021+QT			1.4571
37	Stem adapter*	1.4021+QT			1.4571
40	Plug*	1.4021+QT			1.4571
41	Stem adapter*	1.4021+QT			1.4571

* Spare parts ⁶⁾ up to DN100

*last updated 10/16

Closing Pressure with ARI-PREMIO													
Mixing function AB ↙ A B	DN	15	20	25	32	40	50	65	80	100	125	150	
	Seat - ØA/B (mm)	21/20	21/25	27/27	31/32	41/40	51/50	66/60	81/75	101/95	120/120	140/140	
ARI-PREMIO 2.2 kN	Standard Kvs-Values	4	6.3	10	16	25	40	63	100	160	250	320	
	Reduced Kvs Values ³	2.5	4	6.3	10	16	25	40	63	100	160	250	
	Travel (mm)	20						30			50		
Actuator ¹⁾ ARI-PREMIO 2.2 kN	Closing pressure (bar)	I	40	35.9	30.8	21.7	12.8	8	4.3	2.7	1.5	-	-
		II	40	33.7	28.8	20.2	11.9	7.4	3.9	2.3	1.3	-	-
		III	30.7	30.1	27.1	19.1	10.6	6.5	3.6	2.2	1.2	-	-
Operating time ²⁾ (s)		53						79					
Actuator ¹⁾ ARI-PREMIO 5 kN	Closing pressure (bar)	I	-	40	40	40	33.2	21.3	12.3	8	4.9	3.4	2.4
		II	-	40	40	40	32.3	20.7	11.9	7.6	4.7	3.2	2.3
		III	40	40	40	40	31	19.8	11.6	7.5	4.6	3	2.1
Operating time ²⁾ (s)		53						79			132		
Actuator ¹⁾ ARI-PREMIO 12 kN	Closing pressure (bar)	I	-	-	-	-	40	40	32.3	21.2	13.5	9.5	6.9
		II	-	-	-	-	40	40	31.8	20.9	13.3	9.3	6.8
		III	-	-	-	-	40	40	31.6	20.7	13.2	9.1	6.6
Operating time ²⁾ (s)		25						38			63		
Actuator ¹⁾ ARI-PREMIO 15 kN	Closing pressure (bar)	I	-	-	-	-	-	-	40	26.9	17.2	12.1	8.8
		II	-	-	-	-	-	-	40	26.6	17	11.9	8.7
		III	-	-	-	-	-	-	40	26.4	16.9	11.7	8.5
Operating time ²⁾ (s)		79						132					

I. Fig. 450 : PTFE-V-ring unit II. Fig. 450 : PTFE-/ pure graphite-packing III. Fig. 451 : Bellows seal

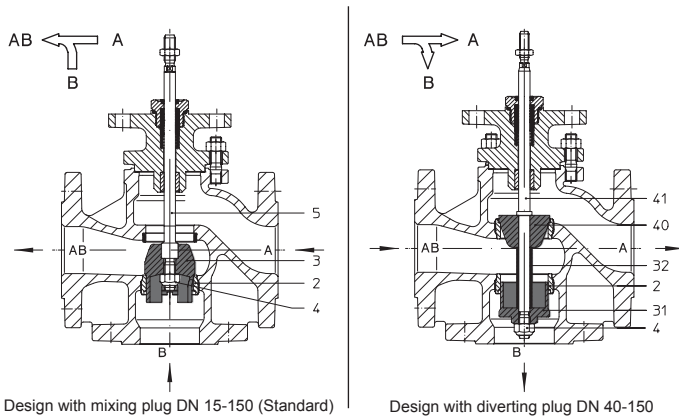
max. permissible closing pressure for both seat position On flow-to-open P₂ = 0

Closing Pressure with ARI-PREMIO													
Diverting function AB ↘ A B	DN	15	20	25	32	40	50	65	80	100	125	150	
	Seat - ØA/B (mm)	21/20	21/25	27/27	31/32	40/40	50/50	60/60	75/75	90/90	105/105	125/125	
ARI-PREMIO 2.2 kN	Standard Kvs-Values	4	6.3	10	16	14	25	45	60	95	170	200	
	Reduced Kvs Values ³	2.5	4	6.3	10	-	-	-	-	-	-	-	
	Travel (mm)	20						30					
Actuator ¹⁾ ARI-PREMIO 2.2 kN	Closing pressure (bar)	I	25.7	18	15.4	10.8	13.4	8.2	5.4	3.2	2	1.3	-
		II	24.1	16.8	14.4	10.1	12.5	7.6	4.8	2.8	1.8	1.1	-
		III	15.4	15	13.6	9.5	11.1	6.8	4.5	2.6	1.6	-	-
Operating time ²⁾ (s)		53						79					
Actuator ¹⁾ ARI-PREMIO 5 kN	Closing pressure (bar)	I	40	40	38.5	27.4	34.6	21.9	15	9.4	6.4	4.5	3.1
		II	40	40	37.5	26.7	33.7	21.3	14.4	9	6.1	4.3	2.9
		III	40	40	36.6	26.1	32.3	20.4	14.1	8.8	6	4	2.7
Operating time ²⁾ (s)		53						79					
Actuator ¹⁾ ARI-PREMIO 12 kN	Closing pressure (bar)	I	-	-	40	40	40	40	38.9	24.8	17.1	12.3	8.6
		II	-	-	40	40	40	40	38.4	24.4	16.9	12.1	8.5
		III	-	-	40	40	40	40	38	24.2	16.7	11.9	8.3
Operating time ²⁾ (s)		25						38					
Actuator ¹⁾ ARI-PREMIO 15 kN	Closing pressure (bar)	I	-	-	-	-	-	-	40	31.4	21.7	15.7	11
		II	-	-	-	-	-	-	40	31.1	21.5	15.5	10.9
		III	-	-	-	-	-	-	40	30.8	21.3	15.3	10.7
Operating time ²⁾ (s)		79						79					

I. Fig. 450 : PTFE-V-ring unit II. Fig. 450 : Pure graphite-packing III. Fig. 451 : Bellows seal

max. permissible closing pressure for both seat position On flow-to-open P₂ = 0

Control valve working mode



ARI-Control valves are suitable for use with pneumatic or electric actuators.

According to the application two different variations are possible (see drawings on the left). Design with mixing plug as standard. Select when the valve is used for mixing service (2 inlets, 1 outlet).

DN 15-32 with mixing plug can also be used for diverting service (1 inlet, 2 outlets). In exceptions the design with mixing plug can also be used in diverting service for DN ≥ 40. Only small closing pressure are possible.

Design with diverting plug will be used exclusively for diverting service.

*last updated 10/16