

Control valve with chemical-resistant, vacuum-proof lining

DIN-EN: DN 15 - 200 / PN 10 - 40 ASME: NPS ½" - 8" / class 150

PT range: -30 < T < 230 °C, vacuum 10^{-8} mbar



Design Features

Design Characteristics

- different KVS values
- individual control characteristics
- free passage possible with open valve
- equal percentage or linear characteristic line
- cost-effective automation
- readily reproducible control position

The construction of the RH-A control valves is based on our standard cavity-free plug valve with chemical resistant PFA/FEP-lining. A wide range of materials for housings, plugs, as well as for sleeves or linings are available for different areas of application. If required, the control valves can also be supplied with a heating jacket.



PT-Diagram

General Pressure-Temperature-Diagram



The specified values depend on the respective application (medium). Operating temperatures under -20°C only with body material 1.4408 or low-temperature steel. Hight pressure resistance / temperature resistance on request, e.g. PN 40.

Sleeve: There are different sleeve materials / compounds available.

Materials

Standard body materials

• Ductile cast iron ENJS 1049, ASTM Gr 60-40-18 / A395

Standard plug materials

• Stainless Steel 1.4308, ASTM A351 CF8

Special materials

- Carbon Steel 1.0619, ASTM A216 WCB
- Stainless Steel 1.4408, ASTM A351 CF8M
- Unalloyed stainless steel casting (low Temp.) 1.1138, LCC/LCB/A352

Lining materials

- Body: PFA, PFA-conductive, FEP
- Plug: PTFE, PFA, PFA-conductive, FEP

Sealing Systems

Chemical sealing to prevent fugitive emission of aggressive and toxic media with PTFE packing for additional stem sealing; T_{max} 230°C

Type CA read more [...]

Chemical sealing for fluctuating temperatures to prevent fugitive emission of aggressive and toxic media with PTFE packing for additional stem sealing; T_{max} 230°C

Type CASN-A read more [...]



Port Forms

As standard, there are ten plugs forms available per valve size, consisting of five linear and five equal percentage control characteristics.

Furthermore, bespoke plug forms can be calculated and designed according to customer-specific requirements that combine, for example, control properties and free passage.

Characteristics

DN 150

DN 200

Type RH-A, linear control characteristics



Larger valves and higher operating pressures > PN 40 / class 300 on request Due to geometric reasons partly threaded holes in flange drilling

Type RH, equal percentage control characteristics

PTFE/PFA lined plug: equal percentage control characteristics





Type RH-A-PR / RH-SAFE-LINED-PR

ASME / DIN EN	DIN	NPS	PR I-A K _{vs} value [m³/h]	PR II-A K _{vs} value [m ³ /h]	PR III-A K _{vs} value [m³/h]	PR IV-A K _{vs} value [m ³ /h]	PR V-A K _{vs} value [m³/h]
	DN 15	1/2	0,7	1,0	1,6	2,2	3,3
	DN 20	3/4	0,5	1,0	1,5	2,1	3,3
	DN 25	1	1,2	2,5	4,1	6,0	8,1
	DN 32	1 1/4	1,8	3,7	5,9	8,6	13
	DN 40	1 1/2	2,8	5,7	9,0	13	18
	DN 50	2	4,3	8,6	14	20	28
	DN 65	2 1/2	8,5	18	29	45	49
	DN 80	3	9,0	18	32	42	62
	DN 100	4	8,7	17	27	39	59
	DN 100S	4S	21	42	69	94	104
	DN 125	5	20	42	65	89	96
	DN 150	6	32	63	101	144	181
	DN 200	8	66	133	208	297	386

Model structure

The data was determined by flow simulation and based on the VDI/VDE 2173 with a permissible deviation of +/-10% (medium = water 20°C, pressure loss $\Delta p = 1$ bar).

Definition Kvs

The Kvs value designates the maximum possible throughput for a valve with a 100% opening

Definition Kv

The flow coefficient Kv [m³/h] is a specific volume flow for the following conditions:

- The pressure loss (Δp) via the valve is 10⁵ Pa (1 bar)
- The medium is water with a temperature between 278 K and 315 K (5°C to 40°C)

Definition Cv

The flow coefficient Cv is a valve flow coefficient that does not correspond to S.I. units. It represents the number of U.S. gallons of water which flow through a valve with a pressure loss of 1 psi (68.95 mbar) at a temperature of 40°F to 100°F (4°C to 38°C) within a minute. Cv = Kv/0,865

Actuation



1 Locking Devices

Pilot valve combinations, pad lock eyelets, linear key conception, indexing plunger arrestor. read more [...]

2 Plug stem extension

Solid construction in stainless steel with T-wrench, Standard extension 100 mm or 150 mm, non standard lengths are available on request read more [...]

3 Actuators

Actuators for mounting-flange acc. to DIN ISO 5211 read more [...]

NEW: Pneumatic actuator AIR GEAR for plug valves with high torque \geq 150.000 Nm read more [...]

4 Ratched coupling

To usw on multiport valves with standard 90° actuator for bigger switch positions than 90° read more [...]

5 Cover extension

Solid construction in stainless steel, Standard extension 100 mm or 150 mm high, non standard lengths are available on request . Hexagonal bolts on adjustment ring freely accessible. Note: Don't use with sealing FSN/FSN-SL and CASN/CASN-SL read more [...]