

Head Station with Dockin pig ball valve Series 28e

Application:

Stainless steel - Valve, consisting of piggable pipe section with a free overlapping, head station ball valve, as head station in 1-Pigging- and 2-Pigging systems:

- nominal diameters DN 50 to DN 200
- nominal pressure PN 25 / PN 40
- temperature up to 200°C

The valve consists of a pipe section with the necessary connections for the Head station control, and a dock-in pigging ball valve with blind bore, which because of its unique construction enables an absolute quick and safe entry, and exit from pigging system. The equipment displayed in the modular kit system can be combined with different additional parts, and show the following special features:

- Pipe inside diameter acc. to DIN 2430
- Sealing rings, spring loaded on one side
- floating ball, i.e. sealed by both sealing rings
- control shaft sealed by a pre-loaded spring washer V-ring packing
- blow out proof control shaft
- anti static design by conductable shaft bearing
- Flange with raised face either form B1 or B2 acc. DIN EN 1092-1, clearance free with special flanges with male face/female face, specially for pigging equipment or specially designed according to customer requirements
- connections for actuators acc. DIN ISO 5211

Versions:

The valve fulfills the following functions for the different types of designs:

- as manual operated Head station in 1-Pigging system,
- as manual operated Head station in 2-Pigging system.



Note:

For safety reasons, an automation to the Pigging head station should be avoided at all times!

Special designs:

- With pigging signal strips in automatic systems for mounting magnetic-inductive pigging sensors,
- with pigging sensing devices for manual detection,
- different inside diameters.

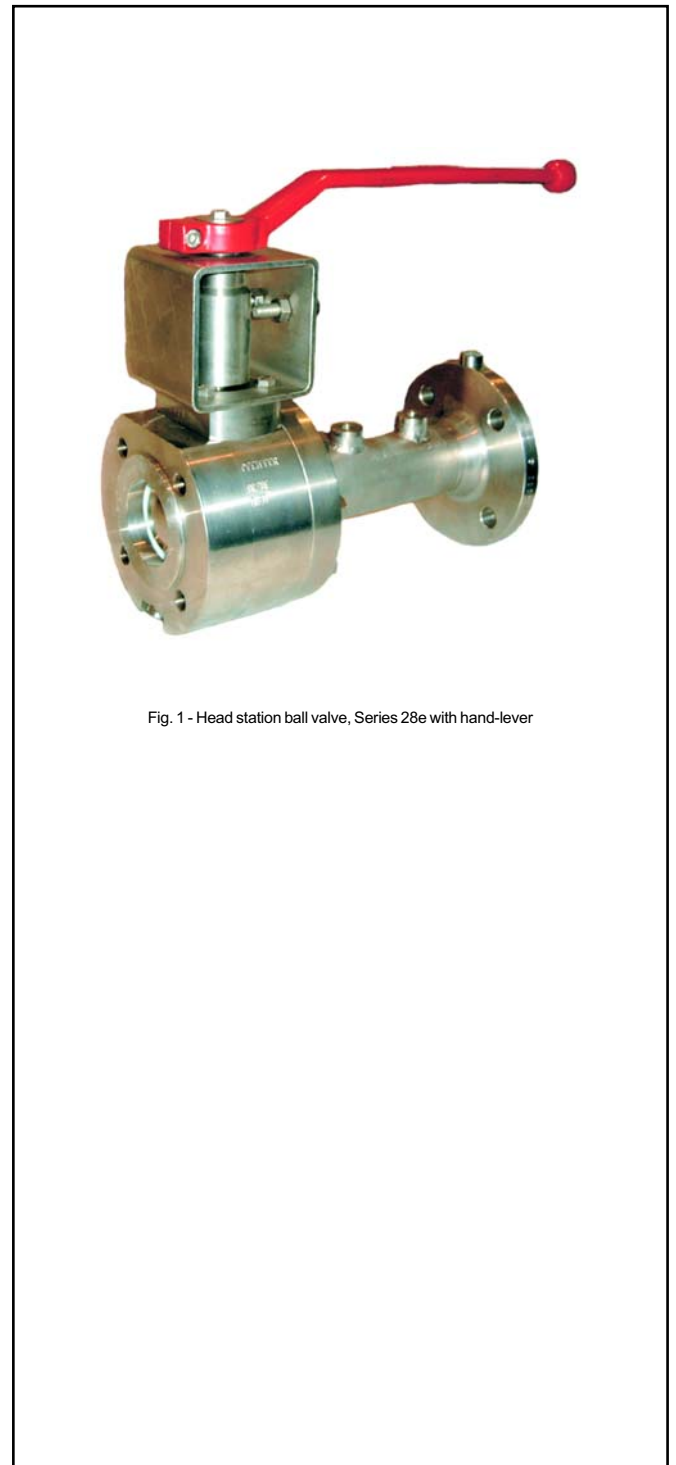


Fig. 1 - Head station ball valve, Series 28e with hand-lever

Head station Series 28e

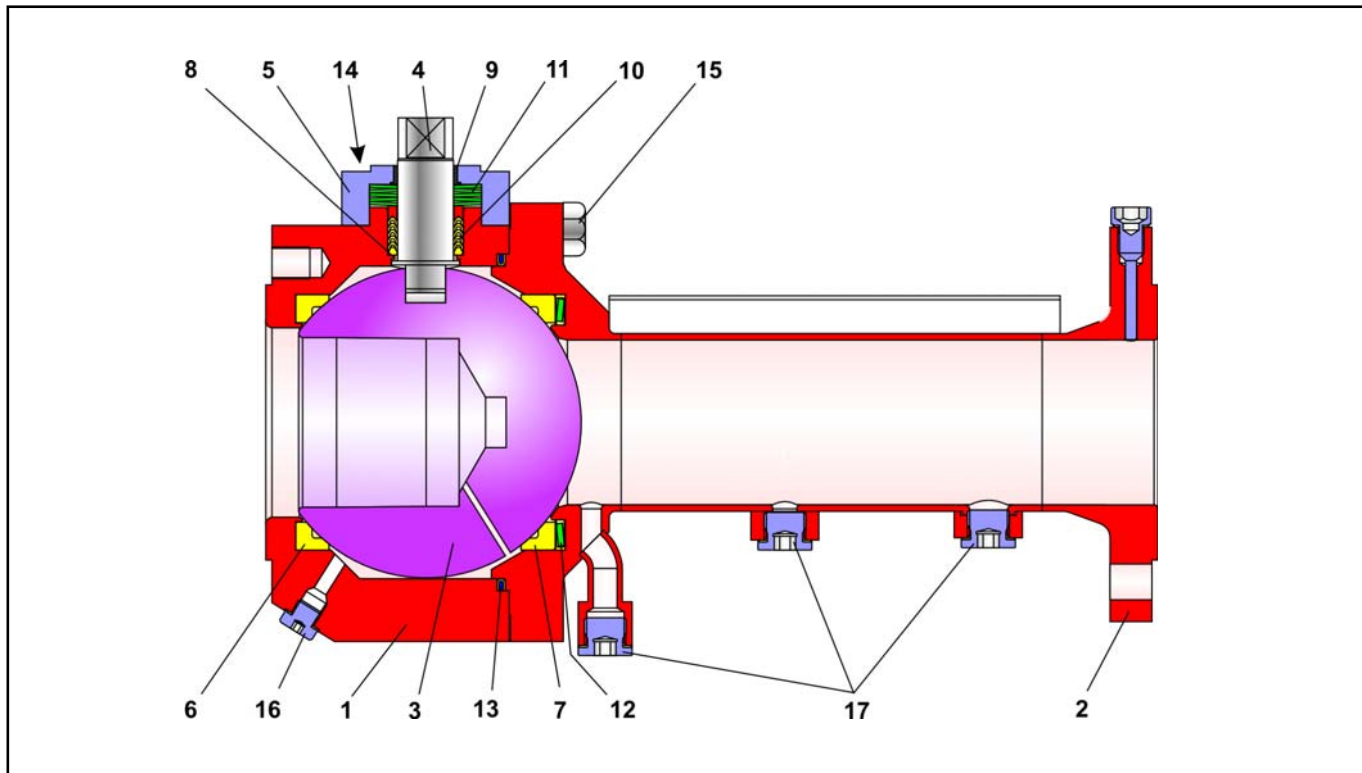


Fig 2 - Sectional drawing of the Head station Series 28e

Item	Description	Item	Description
1	Main body	10	V-ring packing
2	Side body	11	Set of spring washers
3	Ball	12	Spring washer seal
4	Control shaft	13	Body sealing
5	Stuffing box flange	14	Screw
6	Sealing ring	15	Hexagon screw
7	Sealing ring	16	Locking screw
8	Bearing bush	17	Locking screw
9	Bearing sleeve		

Table 1 - Part list

Additional equipment and attachment parts:

For the control valves, the following accessories are available either separately or in combination:

- Hand-Lever (180°),
- Manual gear box (180°),
- Control shaft extension (100mm),
- Limit switch,

further attachments are available according to customer specifications.

Funktion- and operation mode:

The pig-dockin ball valves of series 28e are used for removing, or inserting the pigs into the pigging pipe system.

The ball (3) with a slight tapered blind bore, is rotatable around the middle axis.

The ball, in which the pig is located in the bore, when rotated 180° the pig can either be inserted into, or removed from the pipeline system.

The external control shaft can be fitted with a hand-lever, optionally, a manual gear box can be adapted.



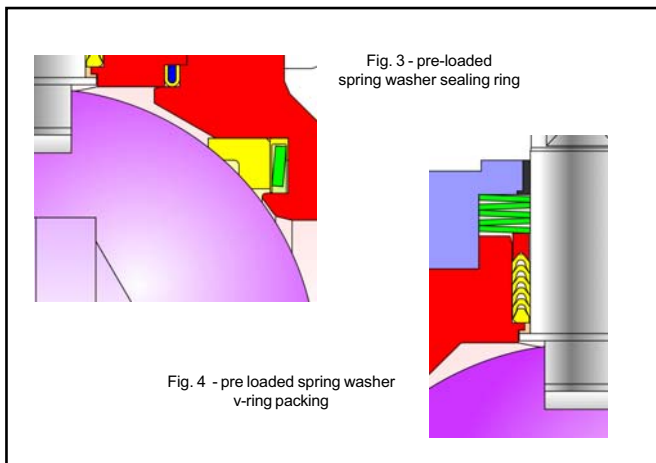
Note: For safety reasons, an automation to the pigging head station should be avoided at all times!

The sealing of the ball (3) is with interchangeable sealing rings (6 und 7). The control shaft is sealed with a PTFE V-ring packing (10). The pre-loaded tension is carried out with spring washers (11), which are located above the packing.



Note: Before use of ball valves in hazardous-areas, the application must be in accordance with ATEX 94/9/EG please refer to the operating instructions <BA 28e> !

Advantages of the pre-loaded sealing system:



- maintenance free and self adjusting,
- two active seat rings,
- highest sealing effectiveness,, even by extreme pressure, and temperature variations,
- longer service life,
- reduced increase in torque by rising temperature therefore, smaller actuator required
- **Conclusion:**
higher level of efficiency and economical!

General technical data:

Nominal diameter	DN 50 to DN 200
Nominal pressure	PN 25 / 40
Temperature range	up to 200°C
Ball sealing	TFM (PTFE)
Leak rate	Leak rate A acc. DIN EN 12266-1, Test P12 (Leak rate 1 BO acc. DIN 3230 Part 3)
Flanges	DIN EN 1092-1, variable form
Stuffing box packing	Pre-loaded spring washer PTFE - V-ring packing

Table 2 - technical data

Material:

Main body	1.4571 / 1.4408
Side body	1.4571 / 1.4581
Ball	1.4571
Control shaft	1.4571
Sealing rings	TFM (PTFE)
Spring washer	1.4122 lined with PTFE-white
Stuffing box packing	PTFE - V-ring-Packing with Spring washer from 1.8159
lower bearing sleeve	PTFE with 25% Glass
top bearing sleeve	PTFE with 25% Carbon
Body sealing	PTFE / EPDM

Table 3 - Material

Optional material combinations:

- Control shaft, and ball on request,
- Sealing rings in PTFE-compounds,
- metal sealing system,
- Sealing in Graphite.

Pressure - Temperature - Diagram:

The application area is determined by the pressure-temperature-diagram.
Process data and medium can affect the values in the diagram.

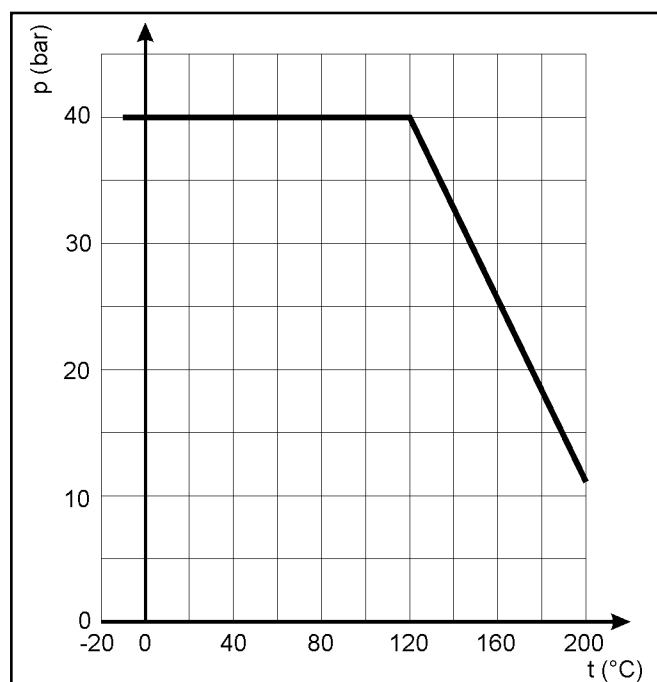


Fig 5. - Pressure -Temperature-Diagram

Torque and breakaway torques:

DN	Md _{max} in Nm		Md in Nm	Breakaway torque M _{di} in Nm						
	1.4571	1.4542		0	2	4	6	8	10	16
50	437	961	42	60	66	72	79	85	91	110
80	749	1647	77	110	125	140	155	170	185	230
100	898	1975	119	170	187	219	244	269	294	368
150	1455	3201	190	270	309	349	387	427	467	585
200	on request									

Table 4 - max. permissible torque, required torque and breakaway torque

The breakaway torques specified are average values, which were measured with air at 20°C with the corresponding differential pressures. Operating temperature, process medium, and long operating periods may affect the permissible torque and breakaway torque.

Dimensions and Weights:

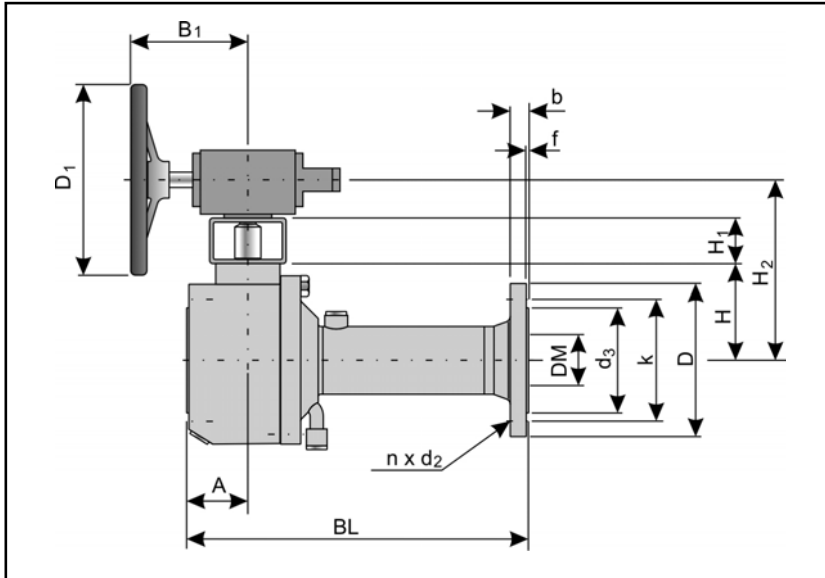


Fig. 6 - Dimensional drawing

DN	50	80	100	150	200
DM	54.5	82.5	107.1	159.3	206.5
BL	327	447	560	780	940
A	56.5	80	95	138	174
D	165	200	235	300	360
b	20	24	24	28	30
k	125	160	190	250	310
n x d2	4 x 18	8 x 18	8 x 22	8 x 26	12 x 26
d3	102	138	162	218	278
f	3	3	3	3	3
H	95	126	165	225	276
H1	60	60	80	90	90
H2	205	236	301	371	422
Actuator	GS 40.2	X	X		
	GS 63.2			X	X
DIN ISO Connection	F07	F07	F10	F14	F14
Weight approx. kg	25	40	70	220	310

Auma 180° Manual Gear-box	GS 40.2	GS 45.3	GS 63.2
B1	153	154	187
D1	250	250	315
Weight approx. kg	4	6	10

Table 5 - Measurements in mm and Weights in kg

Selection and sizing of head station ball valve:

1. Determine the required nominal size.
2. Select the valve acc. to table 2, table 3 and the pressure-temperatur-diagram.
3. Select the actuator acc. to table 4
4. Select additional equipment/accessories

Order text:

Head station Type: Series 28e,
DN / PN , poss.. special design
Actuator:(manufacture
Safety position:

Limit switch (manufacture):
Others:



Note: All relevant details regarding the version ordered, which deviate from the specified version in this technical description data, can be taken if required, from the corresponding order confirm.

For your special requirements, please contact our technical sales department.

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