

# Plug valve with casted heating jacket

DIN-EN: DN 15 - 600 / PN 10 - 100 ASME: NPS  $\frac{1}{2}$ " - 24" / class 150 - 600 PT range: -30 < T < 230/280°C, vacuum 10-8 mbar



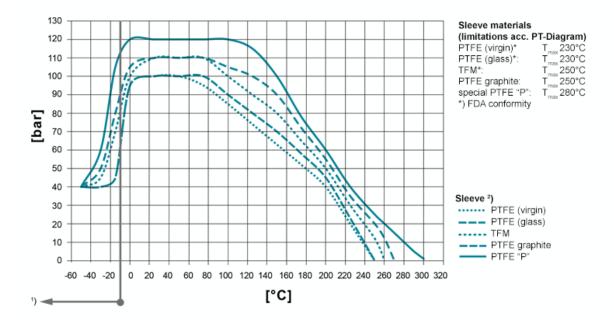
# **Design Features**

#### **Design Characteristics**

- Heating from flange to flange
- heating of cover area (type HM)
- solid casted heating jacket
- solid casted connections for heating medium
- several heating jacket connections available (e. g. female threads / flanges / weld ends)
- available with drain connection for condensate (optional)
- oversize design (optional)
- available for almost all valve types (e. g. plug valves with weld ends, sample valves, fully lined valves, sight glasses etc.)

## **PT-Diagram**

General Pressure-Temperature-Diagram



# Operating temperatures < -30°C and > 220 °C have to be checked and approved by AZ according to the operating conditions.

Besides the P/T value of the sleeve the limitations of the valve bodies also have to be considered. Please refer to the EN 12516-1 resp. ASME B16.34 in order to choose a proper pressure rating (PN/class). The shown values refer to austenitic stainless steel 1.4408 (A351 Gr. CF8M).

1) For operating temperatures below -10°C low temperature / austenitic steels are required.

2) Sleeve: There are different sleeve materials / compounds available.

# **Materials**

#### Standard body materials

- Carbon Steel 1.0619, ASTM A216 WCB
- Stainless Steel 1.4408, ASTM A351 CF8M
- Stainless Steel 1.4308, ASTM A351 CF8
- Unalloyed stainless steel casting (low Temp.) 1.1138, LCC/LCB/A352

#### **Standard plug materials**

- Stainless Steel 1.4408, ASTM A351 CF8M
- Stainless Steel 1.4308, ASTM A351 CF8

#### **Special materials**

- Alloy
- Monel
- Nickel

- Zirconium
- Titan
- Tantal
- other materials on request

# Sealnig Systems

Standard sealing for all major applications; Tmax 230°C

#### Type STD

read more [...]

Firesafe sealing (API 607) with graphite packing for additional stem sealing; Tmax 230°C

## Type FS

read more [...]

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

# Type CA

read more [...]

Firesafe safety sealing (API 607) for fluctuating temperatures with 3x graphite packing (adjustable) for additional stem sealing; Tmax 280°C

### Type FSN

read more [...]

Firesafe safety sealing (API 607) for fluctuating temperatures with 3x graphite packing (live loaded disc springs) for additional stem sealing; Tmax 280°C

### **Type FSN-SL**

read more [...]

Chemical safety sealing for fluctuating temperatures with 3x PTFE packing (adjustment) for additional stem sealing;

Tmax 230°C

## Type CASN

read more [...]

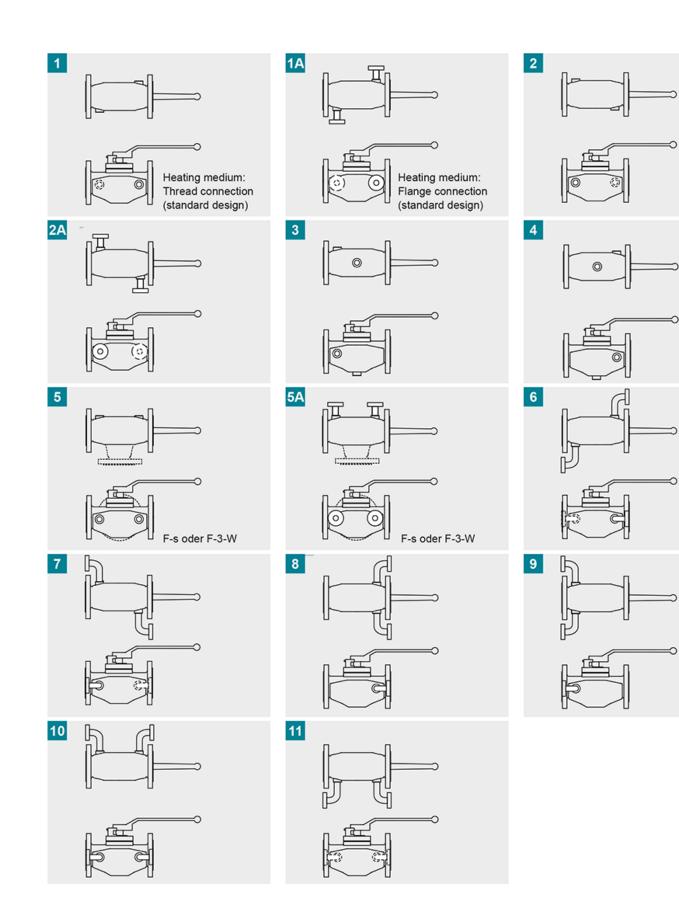
Chemical safety sealing for fluctuation temperatures with 3x PTFE packing (live loaded disc springs) for additional stem sealing; Tmax 230°C

#### **Type CASN-SL**

read more [...]

### **Connection Version**

Standard connection version, other on request



# **Dimensions**

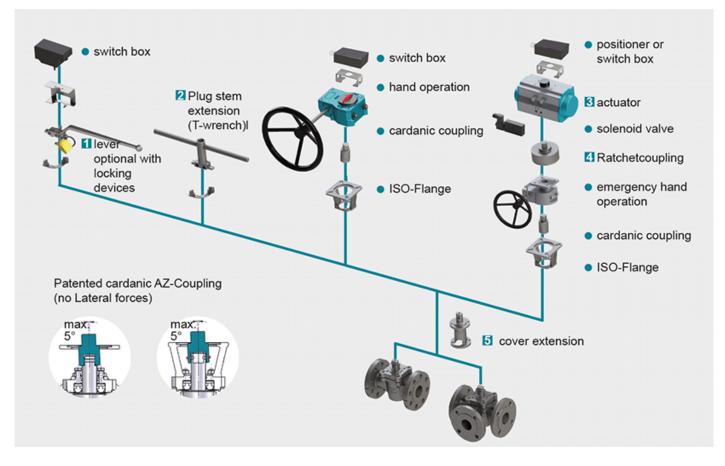
		×			d1 d2					"n'	" min =(	<u>ØD + Ø</u> 2	<sup>id2</sup> )+ 5 [i	mm]				
	DN	15	15E	20E	25 **	25E	32	40	50	65	80	100	100S	125	150	200	250	300
	x	100	*	*	140	*	140	150	400		470			000		055	*	290
	m	100							100	170	170	175	185	200	200	255		
			*	*					160 50	170 87.5	170 90	175 110	185 110	200 75	200 86	255 90	*	
		25	*		30	*	32,5	45	50	87,5	90	110	110	75	86	90		90
NID	е		*	*		*		45 51	50 62			110 77				90 156	*	
DIN	e d1	25	*	٠	30	*	32,5	45	50 62	87,5 75	90	110	110	75	86	90	*	90
DIN	e d1 d2	25	* * 40	*	30	*	32,5	45 51	50 62	87,5	90	110 77	110	75	86	90 156	*	90
NIQ	e d1	25 41		* * G ¾"	30 45	•	32,5 50	45 51 G	50 62	87,5 75 DN 15	90 74	110 77 G ¾"	110 87,5	75 108	86 113	90 156 G 1"	*	90 168
DIN	e d1 d2 Oversize	25 41 40 <b>130</b>	40 <b>130</b>	* G 3%" 40 150	30 45 50 <b>160</b>	* * 50 160	32,5 50 50 <b>180</b>	45 51 G 65 <b>200</b>	50 62 %2" 80 <b>230</b>	87,5 75 DN 15 80 <b>290</b>	90 74 100 <b>310</b>	110 77 G ¾" 150	110 87,5 150	75 108 150 <b>325</b>	86 113 200 <b>350</b>	90 156 G 1" 250 <b>400</b>	*	90 168 350 <b>500</b>
	e d1 d2 Oversize L	25 41 40 <b>130</b> 200	40 <b>130</b> 200	* G 3%" 40 <b>150</b> 200	30 45 50 <b>160</b> 230	* * 50 <b>160</b> 230	32,5 50 50 <b>180</b> 230	45 51 65 <b>200</b> 290	50 62 ½" 80 <b>230</b> 310	87,5 75 DN 15 80 <b>290</b> 310	90 74 100 <b>310</b> 350	110 77 G ¾" 150 <b>350</b>	110 87,5 150 <b>350</b>	75 108 150 <b>325</b> 350	86 113 200 <b>350</b> 400	90 156 G 1" 250 <b>400</b> 450	* * *	90 168 350 <b>500</b> 550
	e d1 d2 Oversize L NPS	25 41 40 <b>130</b> 200 ½"	40 <b>130</b> 200 <sup>3</sup> ⁄4"	* G 3%" 40 150 200 1" **	30 45 50 160 230 1½"	* * 50 160 230 2"	32,5 50 50 <b>180</b> 230 <b>3</b> "	45 51 65 200 290 4"	50 62 ½" 80 <b>230</b> 310 <b>4"S</b>	87,5 75 DN 15 80 <b>290</b> 310 <b>6</b> "	90 74 100 <b>310</b> 350 <b>8</b> "	110 77 G ¾" 150 <b>350</b> <b>10"</b>	110 87,5 150 <b>350</b> 12"	75 108 150 <b>325</b> 350 <b>14</b> "	86 113 200 <b>350</b> 400 <b>16"</b>	90 156 G 1" 250 400 450 18"	* * * 20"	90 168 350 <b>500</b> 550 <b>24</b> "
	e d1 d2 Oversize L NPS x	25 41 40 <b>130</b> 200 ½"	40 <b>130</b> 200 3⁄4" 90	* G 3%" 40 150 200 1" ** 90	30 45 50 <b>160</b> 230 1 <sup>1</sup> / <sub>2</sub> " 100 30 53	* * 50 160 230 2" 110 35 60	32,5 50 50 <b>180</b> 230 <b>3"</b> 125	45 51 65 <b>200</b> 290 <b>4</b> " 125	50 62 ½" 80 <b>230</b> 310 <b>4"S</b> 140	87,5 75 DN 15 80 <b>290</b> 310 <b>6"</b> 185	90 74 100 <b>310</b> 350 <b>8</b> " 205	110 77 G ¾" 150 <b>350</b> <b>10</b> " 215	110 87,5 150 <b>350</b> 12"	75 108 150 <b>325</b> 350 <b>14</b> "	86 113 200 <b>350</b> 400 <b>16"</b>	90 156 G 1" 250 400 450 18"	* * * 20"	90 168 350 550 24" *
ANSI 150 DIN	e d1 d2 Oversize L NPS x m e d1	25 41 40 <b>130</b> 200 ½" 90 0	40 <b>130</b> 200 <sup>3</sup> ⁄ <sub>4</sub> " 90 0	* G 3%" 40 150 200 1" ** 90 15	30 45 50 160 230 1½" 100 30	* * 50 160 230 2" 110 35 60	32,5 50 50 180 230 3" 125 40	45 51 65 <b>200</b> 290 <b>4</b> " 125 45	50 62 %2" 80 <b>230</b> 310 <b>4"S</b> 140 40	87,5 75 DN 15 80 <b>290</b> 310 <b>6</b> " 185 50	90 74 100 <b>310</b> 350 <b>8"</b> 205 45	110 77 G ¾" 150 <b>350</b> <b>10"</b> 215 65	110 87,5 150 <b>350</b> <b>12"</b> *	75 108 150 <b>325</b> 350 <b>14"</b> *	86 113 200 <b>350</b> 400 <b>16"</b>	90 156 G 1" 250 400 450 18"	* * * 20" *	90 168 350 <b>500</b> 550 <b>24"</b> *
ANSI 150	e d1 d2 Oversize L NPS x m e d1 d2	25 41 40 130 200 ½" 90 0 40	40 <b>130</b> 200 <b>3</b> ⁄4" 90 0 40 G ¾"	* G 3%" 40 150 200 1" ** 90 15	30 45 50 <b>160</b> 230 1 <sup>1</sup> / <sub>2</sub> " 100 30 53	* 50 <b>160</b> 230 <b>2"</b> 110 35 60 %	32,5 50 50 180 230 3" 125 40	45 51 G 55 200 290 4" 125 45 72	50 62 ½″ 80 <b>230</b> 310 <b>4"S</b> 140 40 93	87,5 75 DN 15 80 <b>290</b> 310 <b>6</b> " 185 50 106	90 74 100 <b>310</b> 350 <b>8"</b> 205 45 128	110 77 G ¾" 150 <b>350</b> <b>10</b> " 215 65 165	110 87,5 150 <b>350</b> <b>12"</b> *	75 108 150 <b>325</b> 350 <b>14"</b> *	86 113 200 <b>350</b> 400 <b>16"</b>	90 156 G 1" 250 400 450 18"	* * * 20" *	90 168 350 <b>500</b> 550 <b>24"</b> *
ANSI 150	e d1 d2 Oversize L NPS x m e d1	25 41 40 <b>130</b> 200 ½" 90 0	40 <b>130</b> 200 <sup>3</sup> ⁄ <sub>4</sub> " 90 0 40	* G 3%" 40 150 200 1" ** 90 15	30 45 50 <b>160</b> 230 1 <sup>1</sup> / <sub>2</sub> " 100 30 53	* * 50 160 230 2" 110 35 60	32,5 50 50 180 230 3" 125 40	45 51 G 55 200 290 4" 125 45 72	50 62 ½″ 80 <b>230</b> 310 <b>4"S</b> 140 40 93	87,5 75 DN 15 80 <b>290</b> 310 <b>6</b> " 185 50 106	90 74 100 <b>310</b> 350 <b>8"</b> 205 45 128	110 77 G ¾" 150 <b>350</b> <b>10"</b> 215 65	110 87,5 150 <b>350</b> <b>12"</b> *	75 108 150 <b>325</b> 350 <b>14"</b> *	86 113 200 <b>350</b> 400 <b>16"</b>	90 156 G 1" 250 400 450 18"	* * * 20" *	90 168 350 <b>500</b> 550 <b>24"</b> *
	e d1 d2 Oversize L NPS x m e d1 d2	25 41 40 130 200 ½" 90 0 40	40 <b>130</b> 200 <b>3</b> ⁄4" 90 0 40 G ¾"	* G %" 40 <b>150</b> 200 1" ** 90 15 45	30 45 50 <b>160</b> 230 1½" 100 30 53 G	* 50 <b>160</b> 230 <b>2"</b> 110 35 60 %	32,5 50 180 230 3" 125 40 74	45 51 G 55 200 290 4" 125 45 72 G ¾"	50 62 ½″ <b>80</b> <b>230</b> 310 <b>4"S</b> 140 40 93	87,5 75 DN 15 80 <b>290</b> 310 <b>6</b> " 185 50 106	90 74 100 <b>310</b> 350 <b>8"</b> 205 45 128	110 77 G ¾" 150 <b>350</b> <b>10</b> " 215 65 165	110 87,5 150 <b>350</b> <b>12"</b> *	75 108 150 <b>325</b> 350 <b>14"</b> *	86 113 200 <b>350</b> 400 <b>16"</b>	90 156 G 1" 250 400 450 18"	* * * 20" *	90 168 350 <b>500</b> 550 <b>24"</b> *

Oversize: For flange oversizes, specify the desired face-to-face length "L", the values in bold are standard face-to-face lengths.

\* further nominal sizes on request

\*\* jacket connection DIN / ANSI 10/18 mm below valve centre line

# 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 [...]