

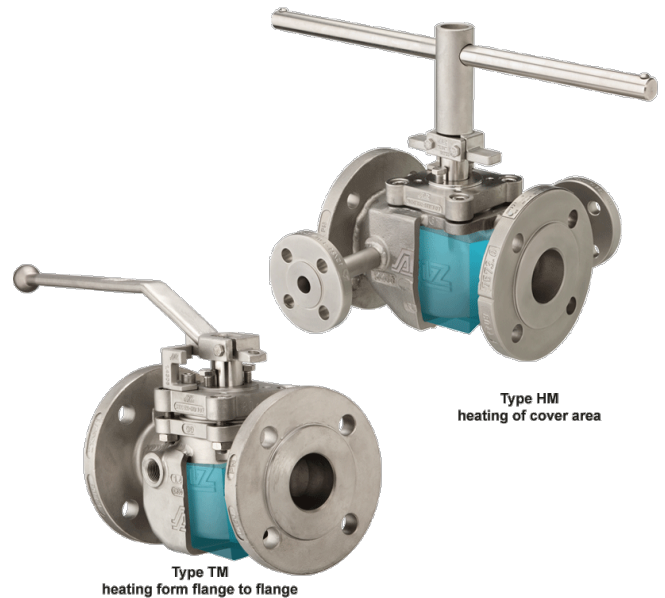
# TM / HM

## Plug valve with casted heating jacket

DIN-EN: DN 15 – 600 / PN 10 – 100

ASME: NPS ½" – 24" / class 150 – 600

PT range:  $-30 < T < 230/280^{\circ}\text{C}$ , 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<sub>max</sub> 230°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

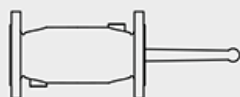
### Type CASN-SL

[read more \[...\]](#)

## Connection Version

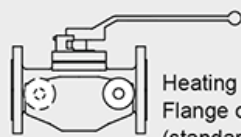
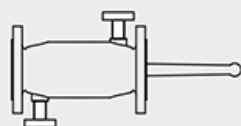
**Standard connection version, other on request**

1



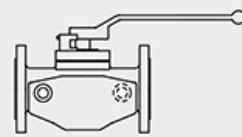
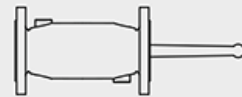
Heating medium:  
Thread connection  
(standard design)

1A

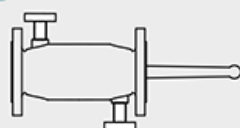


Heating medium:  
Flange connection  
(standard design)

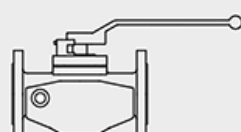
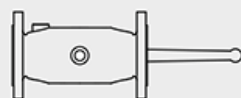
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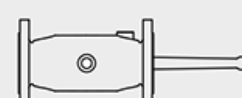
2A



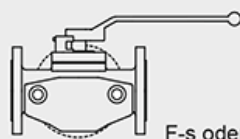
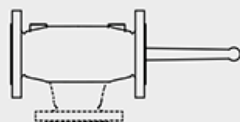
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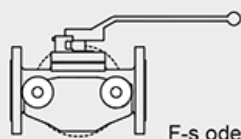
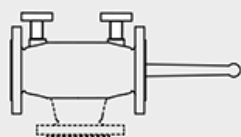


5



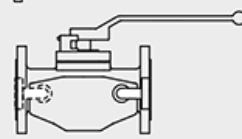
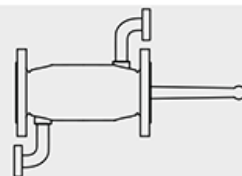
F-s oder F-3-W

5A

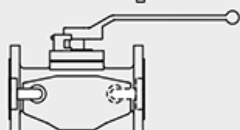
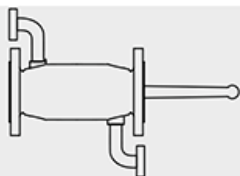


F-s oder F-3-W

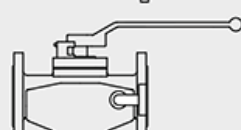
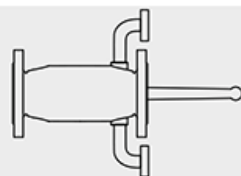
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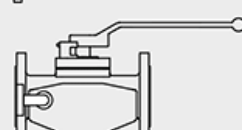
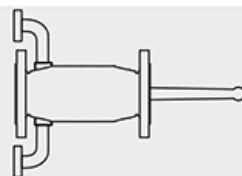
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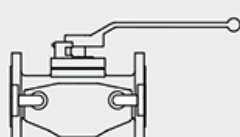
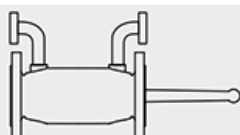
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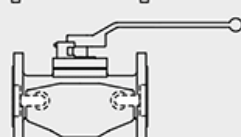
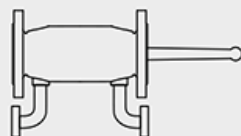
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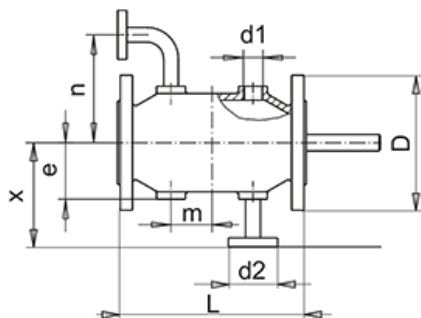
10



11



## Dimensions



$$n \text{ min} = \left( \frac{\varnothing D + \varnothing d_2}{2} \right) + 5 \text{ [mm]}$$

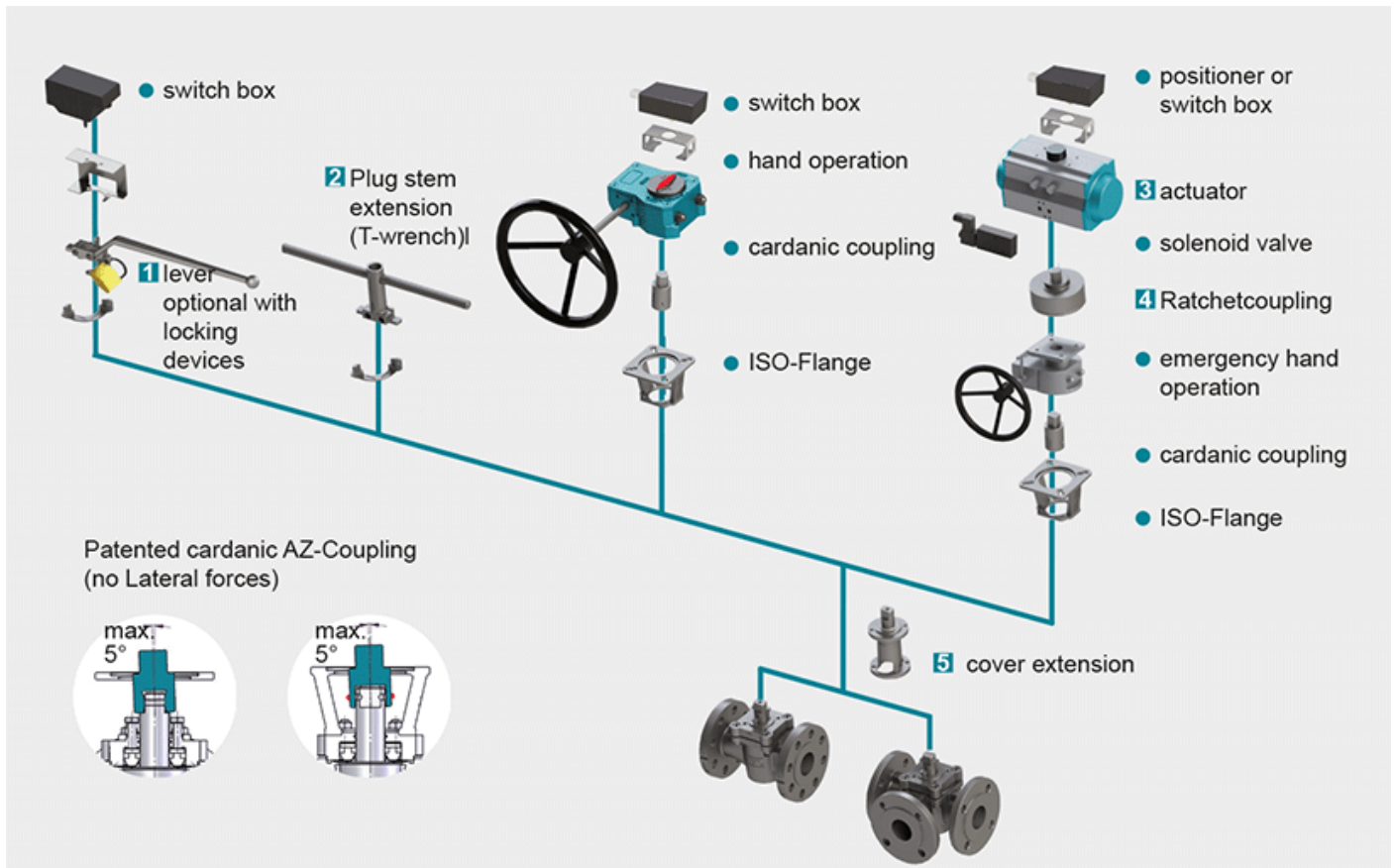
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	x	100	*	*	140	*	140	150	160	170	170	175	185	200	200	255	*	290
	m	25	*	*	30	*	32,5	45	50	87,5	90	110	110	75	86	90	*	90
	e	41	*	*	45	*	50	51	62	75	74	77	87,5	108	113	156	*	168
	d1	G ⅜"				G ½"				G ¾"				G 1"				
	d2	DN 15																
	Override	40	40	40	50	50	50	65	80	80	100	150	150	150	200	250	*	350
	L	130 200	130 200	150 200	160 230	160 230	180 230	200 290	230 310	290 310	310 350	350	350	325 350	350 400	400 450	*	500 550
	NPS	½"	¾"	1" **	1½"	2"	3"	4"	4"S	6"	8"	10"	12"	14"	16"	18"	20"	24"
ANSI 150	x	90	90	90	100	110	125	125	140	185	205	215	*	*	*	*	*	*
	m	0	0	15	30	35	40	45	40	50	45	65	*	*	*	*	*	*
	e	40	40	45	53	60	74	72	93	106	128	165	*	*	*	*	*	*
	d1	G ⅜"			G ½"			G ¾"			G 1"							
	d2	NPS ½"																
	Override	1½"	1½"	2"	3"	3"	4"	6"	6"	8"	10"	12"	*	*	*	*	*	*
	L	108	117	127	165	178	203	229	229	267	267	292	330					
	Class 150	165	165	178	203	203	229	267	267	292	330	356						
	L	140	152	165	190	216	282	305	305	403	419	457	*	*	*	*	*	*
ANSI 300	Class 300	190	190	216	282	282	305	403	403	419	457	502						

Override: 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 switchpositions 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 \[...\]](#)