

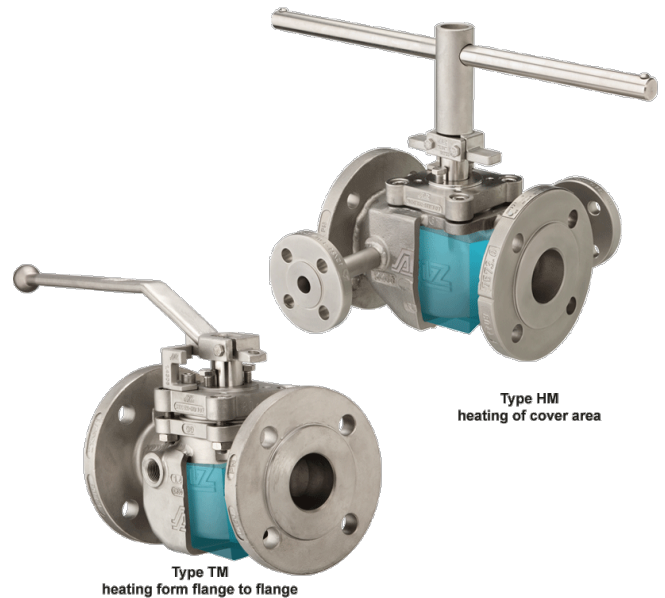
# TM / HM

## 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

## Sealng Systems

Standard sealing for all major applications;

T<sub>max</sub> 230°C

### Type STD

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

Firesafe sealing (API 607) with graphite packing for additional stem sealing; T<sub>max</sub> 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; T<sub>max</sub> 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; T<sub>max</sub> 280°C

### Type FSN-SL

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

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

T<sub>max</sub> 230°C

### Type CASN

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

Chemical safety sealing for fluctuation temperatures

with 3x PTFE packing (live loaded disc springs) for additional stem sealing; T<sub>max</sub> 230°C

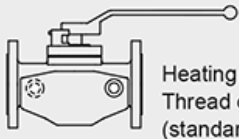
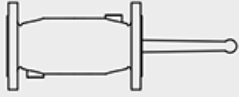
### Type CASN-SL

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

## Connection Version

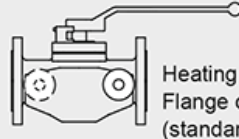
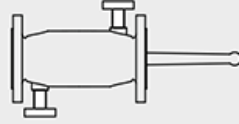
**Standard connection version, other on request**

1



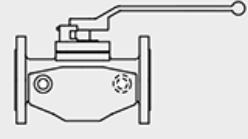
Heating medium:  
Thread connection  
(standard design)

1A

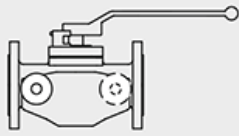
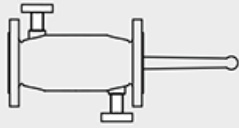


Heating medium:  
Flange connection  
(standard design)

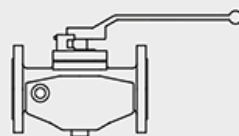
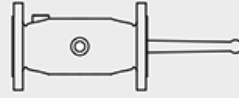
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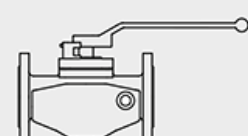
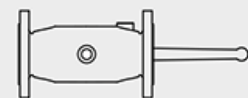
2A



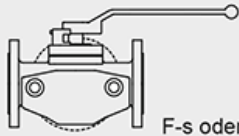
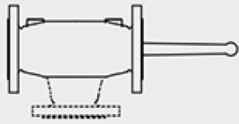
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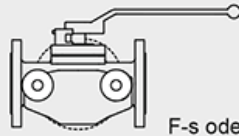
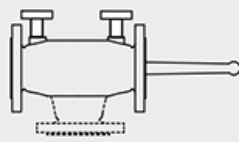


5



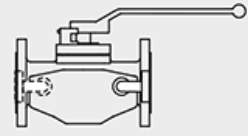
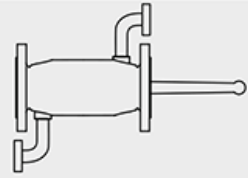
F-s oder F-3-W

5A

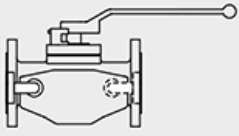
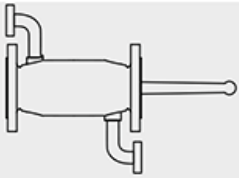


F-s oder F-3-W

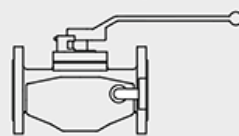
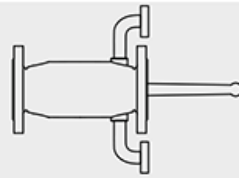
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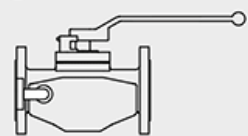
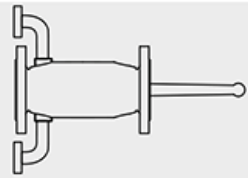
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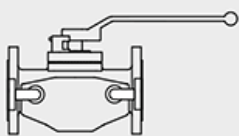
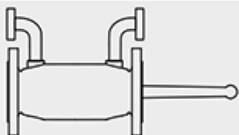
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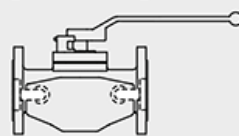
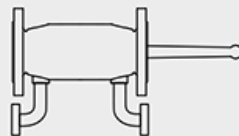
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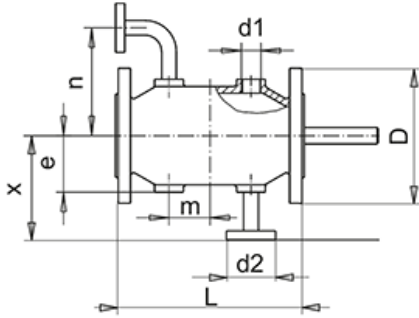
10



11



## Dimensions



$$"n" \text{ min} = \frac{(\varnothing D + \varnothing d2)}{2} + 5 \text{ [mm]}$$

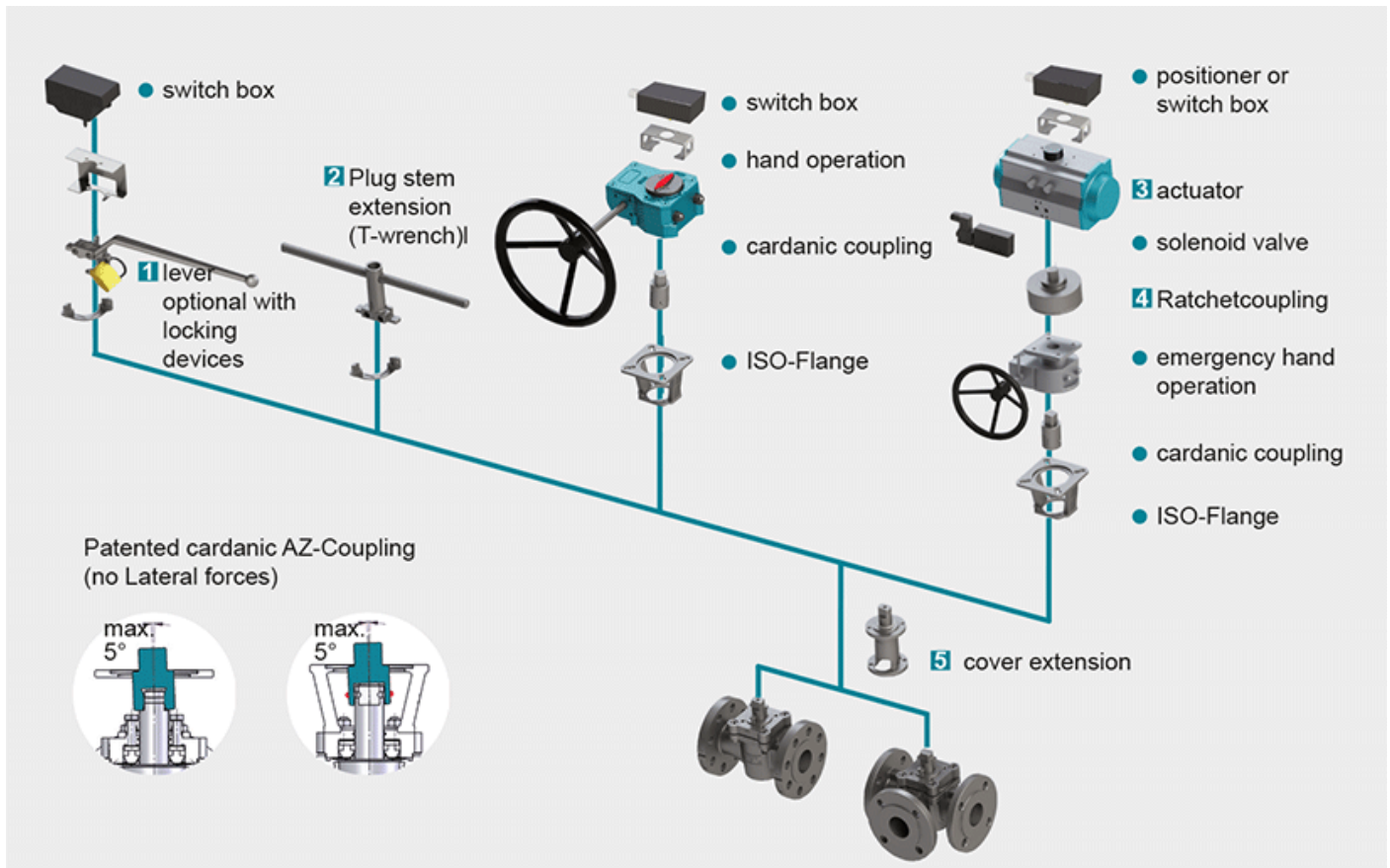
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DIN	x	100	*	*	140	*	140	150	160	170	170	175	185	200	200	255	*	290	
	m	25	*	*	30	*	32,5	45	50	87,5	90	110	110	75	86	90	*	90	
	e	41	*	*	45	*	50	51	62	75	74	77	87,5	108	113	156	*	168	
	d1		G 3/8"			G 1/2"			G 3/4"			G 1"							
	d2		DN 15																
	Override	40	40	40	50	50	50	65	80	80	100	150	150	150	200	250	*	350	
	L	130	130	150	160	160	180	200	230	290	310	310	350	350	325	350	400	*	500
		200	200	200	230	230	230	290	310	310	350				350	400	450		550
	NPS	1/2"	3/4"	1" **	1 1/2"	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 3/8"			G 1/2"			G 3/4"			G 1"							
d2			NPS 1/2"																
Override		1 1/2"	1 1/2"	2"	3"	3"	4"	6"	6"	8"	10"	12"	*	*	*	*	*	*	
L		108	117	127	165	178	203	229	229	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	*	*	*	*	*	*	
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 \[...\]](#)