

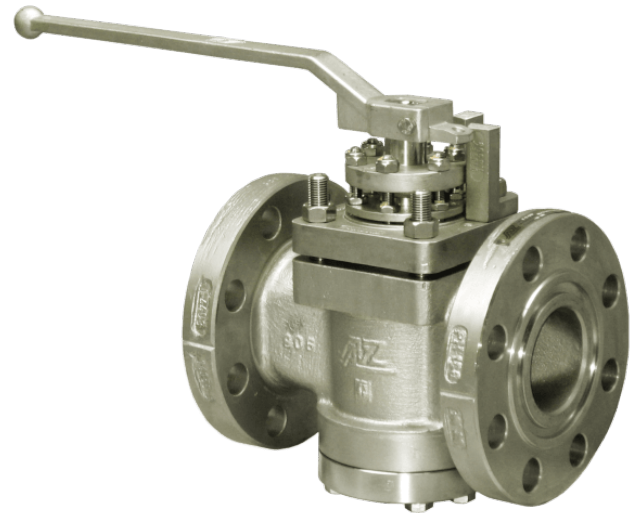
# HDS

## High-Pressure Plug Valve

DIN: 15 - 500 / PN 100 - 160

ASME: NPS ½" - 20" / class 600 - 900

PT range:  $-30 < T < 230/280^{\circ}\text{C}$ , vacuum 10-8 mbar



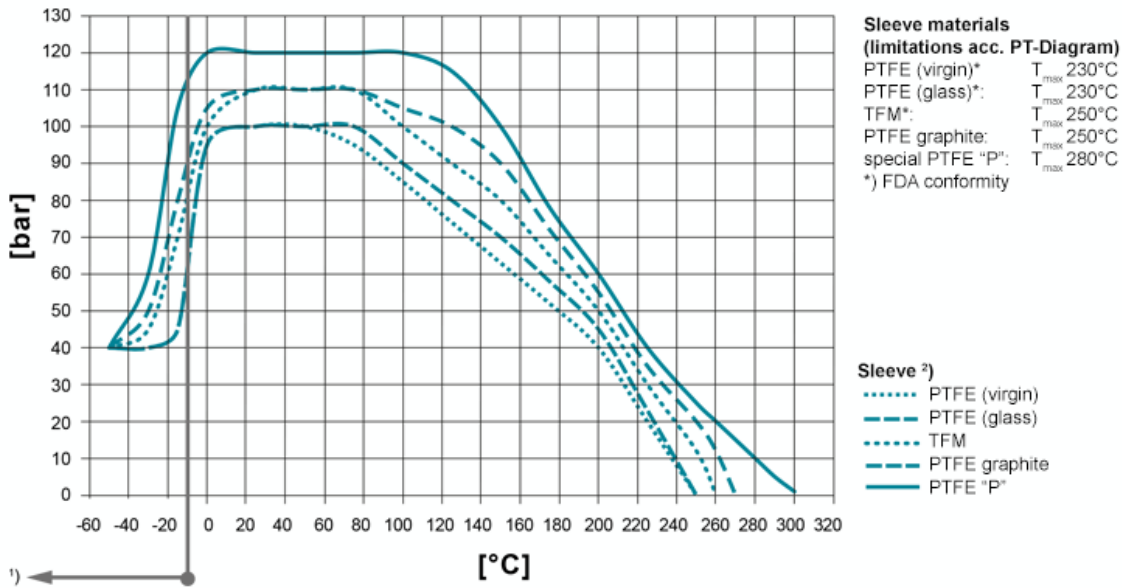
## Design Features

### Design Characteristics

- High pressure safety sealing with stuffingbox packing
- type "HDS-GL" with trunnion mounted plug
- free of cavities
- maintenance free - self lubricating
- readjustment of plug and stuffing box possible
- vacuum tight
- fugitive emission resp. clean air act certified (TA - Luft 2002 approval)
- Directive 2014/68/EU
- fire safe design API 607 / ISO 10497
- FDA conformity

# 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.

Bei der Auswahl des Dichtbuchsen-Materials sind auch die Einsatzgrenzen gemäß EN12516-1 bzw. ASME B16.34 für die jeweiligen Druckstufen zu beachten (PN/class). Die eingezeichneten Werte beziehen sich auf austenitischen Edelstahlguß 1.4408.

- 1) Für den Einsatz unter -10°C Betriebstemperatur sind tieftemperatur- bzw. austenitische Stähle erforderlich.
- 2) Buchse: Es stehen unterschiedliche Dichtbuchsen-Materialien zur Verfügung.

## 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

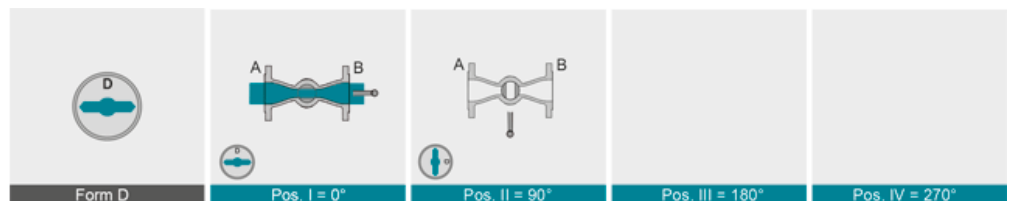
## Sealing Systems

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

### Type FSN

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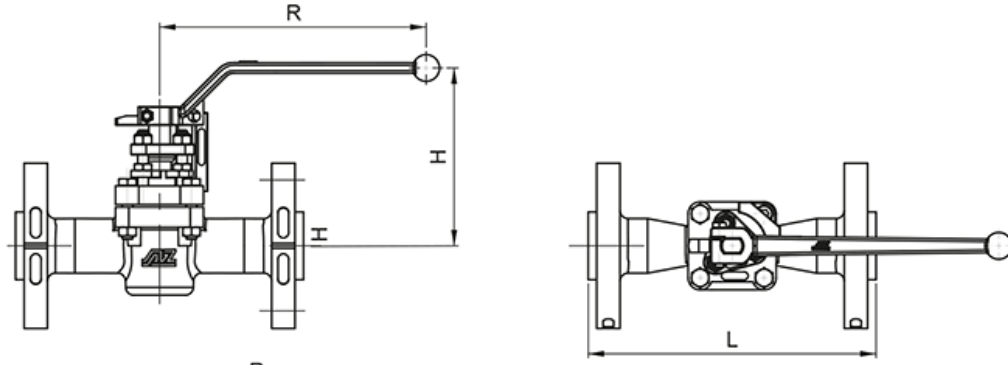
## Port Forms



## Dimensions

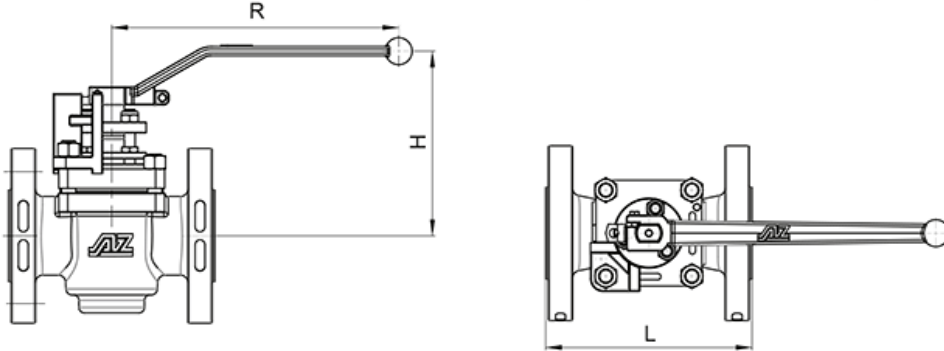
**TYPE HDS**

PN 100 / class 600



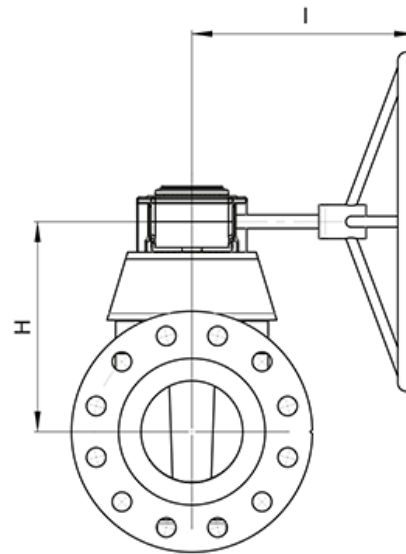
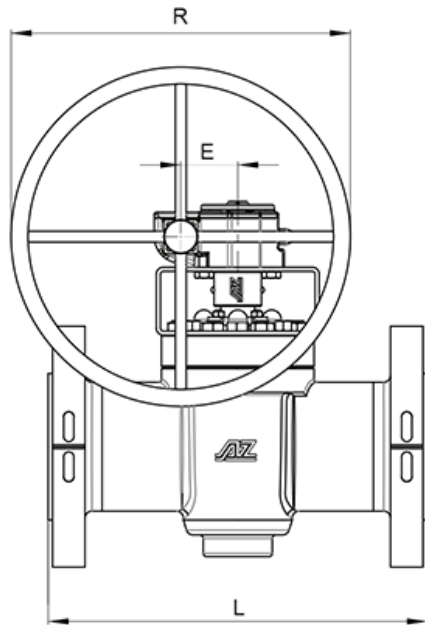
**TYPE HDS-GL**

PN 160 / class 900



DIN EN 1092-1 / 558-1	DN	PN	L	R	H	dihedron [mm]	torque* [Nm]	weight [Kg]	K <sub>vs</sub> -value [m <sup>3</sup> /h]	C <sub>v</sub> -value [US.gal/min]
	15E	100	210	200	125	11	45	5,6	12	14
	25E	100	230	200	135	11	90	10,1	25	29
	40	100	200	320	135	14	100	13,5	85	98
	50	100	230	420	195	17	180	25,0	126	146
	80	100	310/356	600	210	22	280	45,6	275	317
100	100	350/432	600	210	22	380	56,0	197	228	
ASME B 16.5 / 16.10	NPS	Class	L	R	H	dihedron [mm]	torque* [Nm]	weight [Kg]	K <sub>vs</sub> -value [m <sup>3</sup> /h]	C <sub>v</sub> -value [US.gal/min]
	½"E	600	165	200	125	11	45	4,2	13	16
	1"	600	216	200	135	11	45	10,0	26	31
	1½"	600	241	320	135	14	100	15,5	79	92
	2"	600	292	420	195	17	180	24,6	139	161
	3"	600	356	600	210	22	280	46,8	228	264
4"	600	432	600	210	22	380	71,0	198	229	
DIN EN 1092-1 / 558-1	DN	PN	L	R	H	dihedron [mm]	torque* [Nm]	weight [Kg]	K <sub>vs</sub> -value [m <sup>3</sup> /h]	C <sub>v</sub> -value [US.gal/min]
	15E	160	210	200	125	11	55	5,6	12	14
	25E	160	230	200	135	11	100	10,1	25	29
	40	160	200	320	135	14	120	13,5	85	98
	50	160	230/300	420	195	17	200	26,3	126	146
	80	160	282	600	210	22	300	47,9	275	317
100	160	305	600	210	22	430	58,8	197	228	
ASME B 16.5 / 16.10	NPS	Class	L	R	H	dihedron [mm]	torque.* [Nm]	weight [Kg]	K <sub>vs</sub> -value [m <sup>3</sup> /h]	C <sub>v</sub> -value [US.gal/min]
	½"E	900	216	200	125	11	55	4,2	13	16
	1"	900	254	200	135	11	55	10,0	26	31
	1½"	900	305	320	135	14	120	15,5	79	92
	2"	900	368	420	195	17	200	25,8	139	161
	3"	900	381	600	210	22	300	49,1	228	264
4"	900	457	600	210	22	430	74,6	198	229	

**TYPE HDS-GL**  
**PN 100 / class 600**

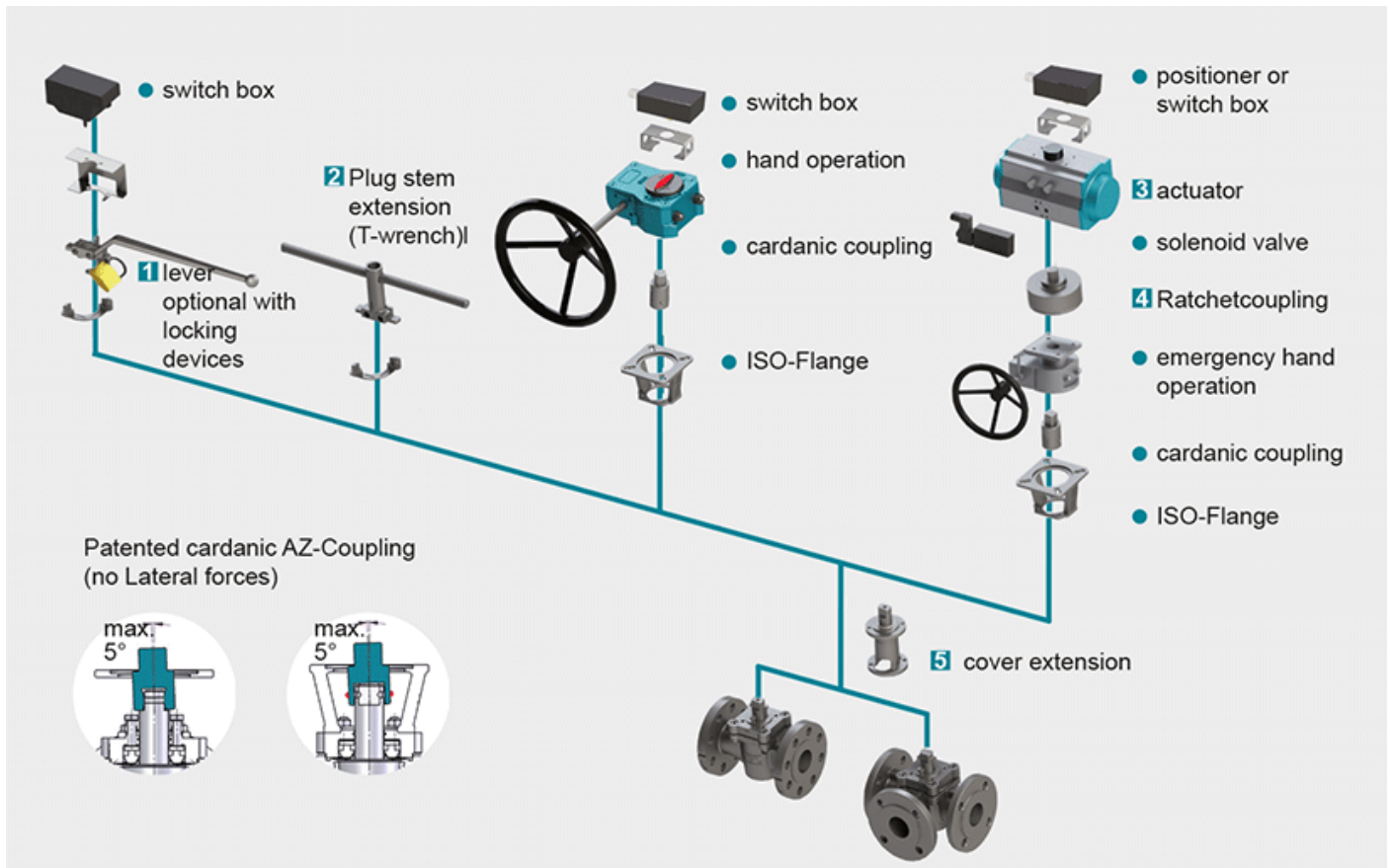


	DN	PN	L	E	R	gear		Typ	torque* [Nm]	Gewicht [Kg]	K <sub>vs</sub> -Wert [m <sup>3</sup> /h]	C <sub>v</sub> -Wert [US.gal/min]	
						H	I						
DIN EN 1092-1 / 558-1	125	100	400	84	400	297	290	Q1500-S	1170	**	865	1000	
	150	100	550	84	400	297	290	Q1500-S	1170	**	875	1011	
	200	100	600	96,5	600	340	350	Q3000-S	1560	**	1770	2047	
	250	100	730	137,5	600	395	465	Q6500-S	1950	**	1949	2261	
	300	100	850	137,5	600	415	465	Q6500-S	3380	**	2618	3027	
	350	100	980	137,5	600	485	465	Q6500-S	7150	**	5070	5861	
	400	100	1100	137,5	600	500	465	Q6500-S	7150	**	4694	5426	
	500	100	1250	180	600	545	520	Q12000-S	8320	**	10260	11862	
	ASME B 16.5 / 16.10	NPS	Class	L	E	R	gear		Typ	torque* [Nm]	Gewicht [Kg]	K <sub>vs</sub> -Wert [m <sup>3</sup> /h]	C <sub>v</sub> -Wert [US.gal/min]
							H	I					
5"		600	508	84	400	297	290	Q1500-S	1170	**			
6"		600	559	84	400	297	290	Q1500-S	1170	**	775	896	
8"		600	660	96,5	600	340	350	Q3000-S	1560	**	1978	2286	
10"		600	787	137,5	600	395	465	Q6500-S	1950	**	2382	2754	
12"		600	838	137,5	600	415	465	Q6500-S	3380	**	1925	2225	
14"		600	889	137,5	600	485	465	Q6500-S	7150	**	2394	2768	
16"		600	991	137,5	600	500	465	Q6500-S	7150	**	4818	5339	
18"		600	1092	180	600	520	520	Q12000-S	8320	**	12427	14367	
20"	600	1194	180	600	545	520	Q12000-S	9750	**	11841	13689		

\* including 100% safety factor for actuators

For geometric reasons, threads are used in the flange bores in a few cases

## 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 \[...\]](#)