

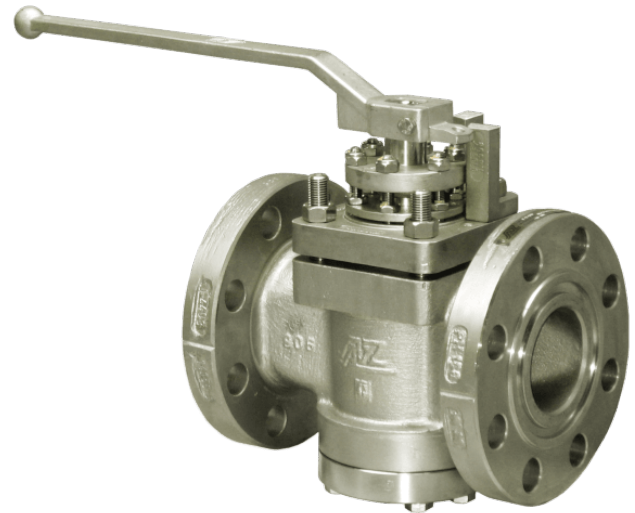
# HDS - High-Pressure Plug Valve

## 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-digram on request

## 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
- Titanium
- Tantalum
- other materials on request

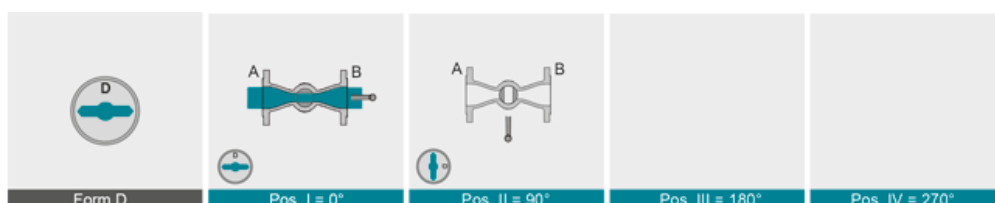
## Sealing Systems

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

### Type FSN

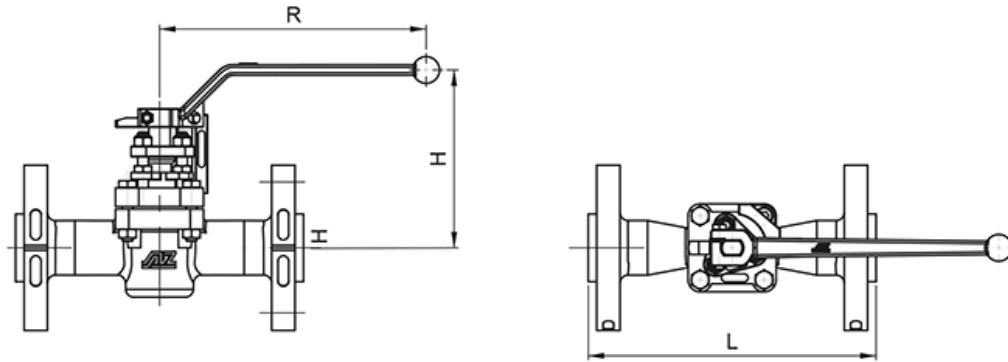
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## Port Forms

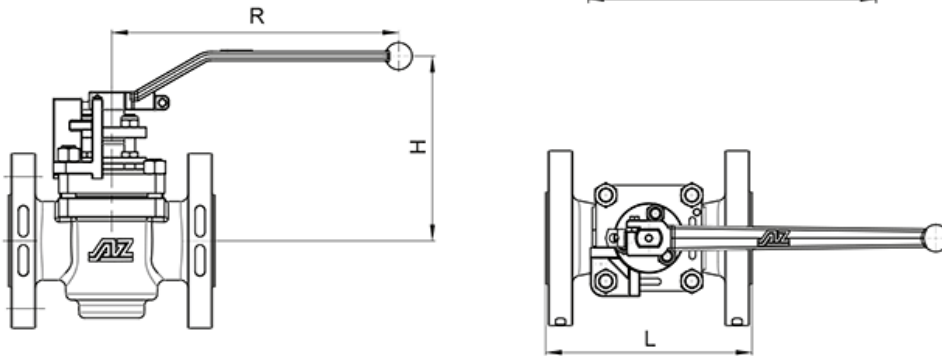


# Dimensions

**TYPE HDS**  
PN 100 / class 600

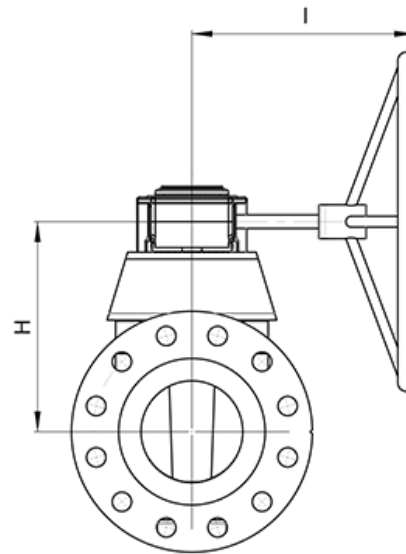
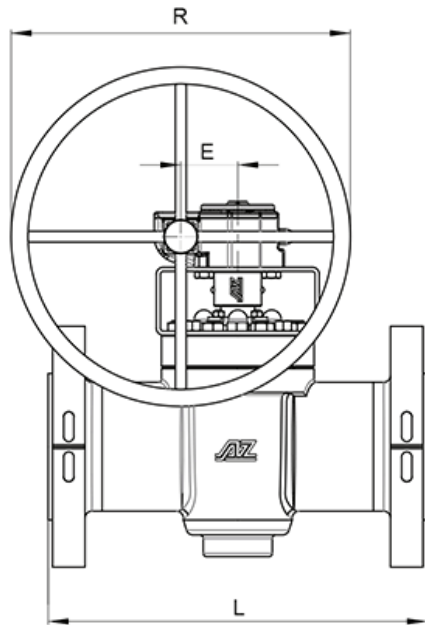


**TYPE HDS-GL**  
PN 160 / class 900



| DIN EN 1092-1 / 558-1 | DN  | PN      | L       | R   | H   | dihedron [mm] | torque* [Nm]  | weight [Kg] | $K_{vs}$ -value [m <sup>3</sup> /h] | $C_v$ -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] | $K_{vs}$ -value [m <sup>3</sup> /h] | $C_v$ -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] | $K_{vs}$ -value [m <sup>3</sup> /h] | $C_v$ -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] | $K_{vs}$ -value [m <sup>3</sup> /h] | $C_v$ -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**

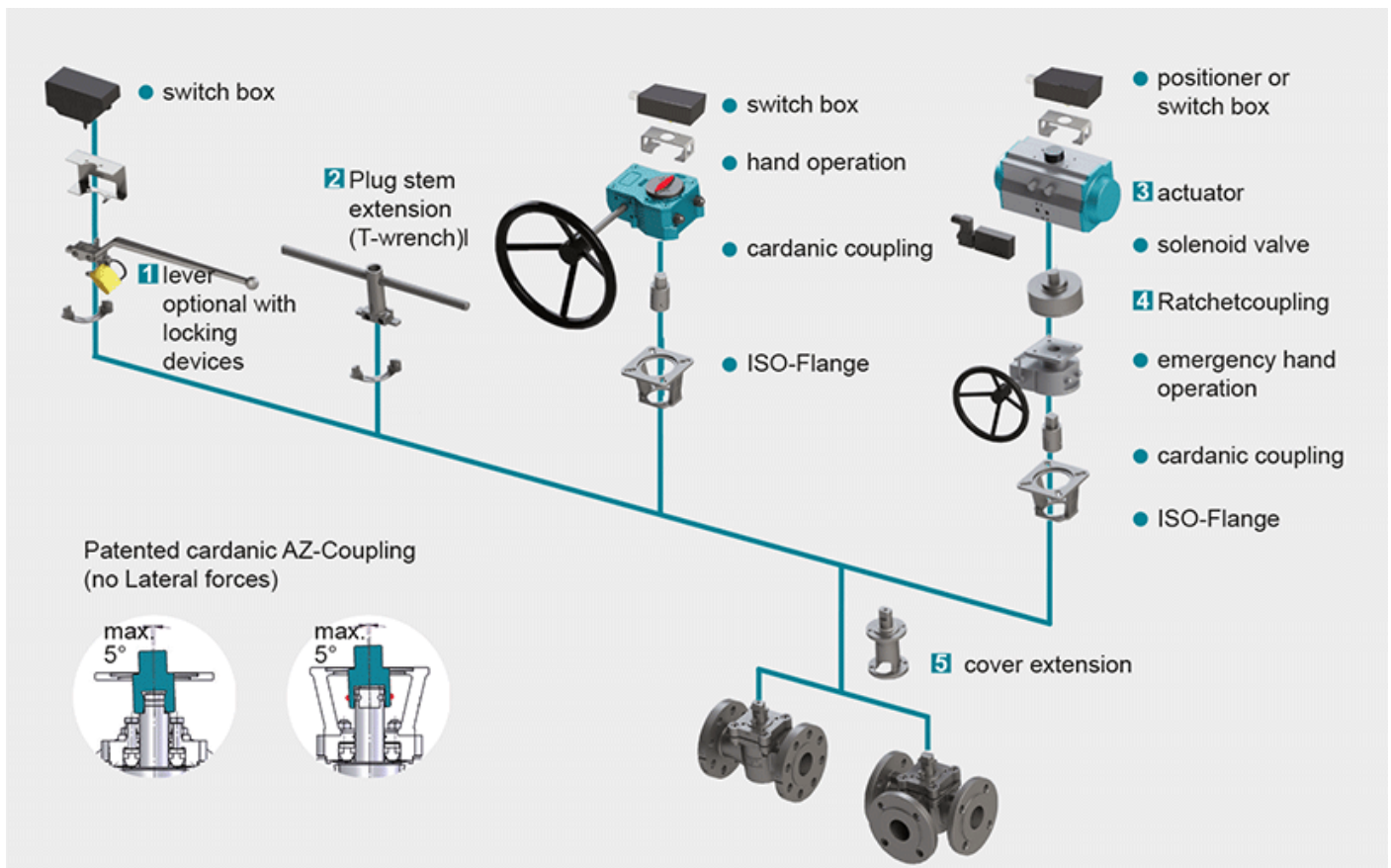


|                       | DN  | PN    | L    | E     | R   | gear |          | Typ      | torque*<br>[Nm] | Gewicht<br>[Kg] | K <sub>vs</sub> -Wert<br>[m <sup>3</sup> /h] | C <sub>v</sub> -Wert<br>[US.gal/min] |
|-----------------------|-----|-------|------|-------|-----|------|----------|----------|-----------------|-----------------|--|--------------------------------------|
|                       |     |       |      |       |     | 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*<br>[Nm] | Gewicht<br>[Kg] | K <sub>vs</sub> -Wert<br>[m <sup>3</sup> /h] | C <sub>v</sub> -Wert<br>[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.  
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### 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  
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### 3 Actuators

Actuators for mounting-flange acc. to DIN ISO 5211  
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NEW: Pneumatic actuator AIR GEAR for plug valves with high torque =150.000 Nm  
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### 4 Ratched coupling

To usw on multiport valves with standard 90° actuator for bigger switchpositions than 90°  
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### 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  
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