



HP valves

- In OMAL range till now we had two types of High Pressure valves:



Carbon steel
Art.526



Stainless steel
Art.422



- This valves have not been designed to be actuated for high ciclicity

OMAL target:

Produce 100% internally (even the seats/seals are injected in OMAL factory) a valve at the top of the range to ensure high ciclicity when actuated. Especially for Compressed Natural Gas (CNG) applications – **MAINLY TO BE USED IN CNG DISPENSERS FOR CAR REFILLING** (where high ciclicity is a «must»)



HP valves Developments

**We purchased and tested valves DN15 (1/2") produced by the main German manufacturers:
MHA, BOHMER, ROETELMANN and HYDAC
of high pressure Ball Valves:**

- ☐ Valves have been tested in groups of three pieces with cycles open / close at a pressure of 350 Bar, with water, generated by multiplier pneumo-hydraulic compressor

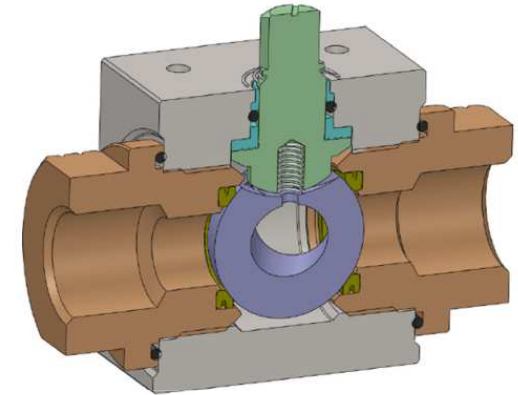
HP valves

OMAL R&D steps

Long testing on different seals for stem & ball

STEM seals:

- Several configurations seal
- Several degrees of the angle conical couple-seals
- Different O-ring, with different length of guide
- Different lip seals (for containing the O-ring)



BALL seats:

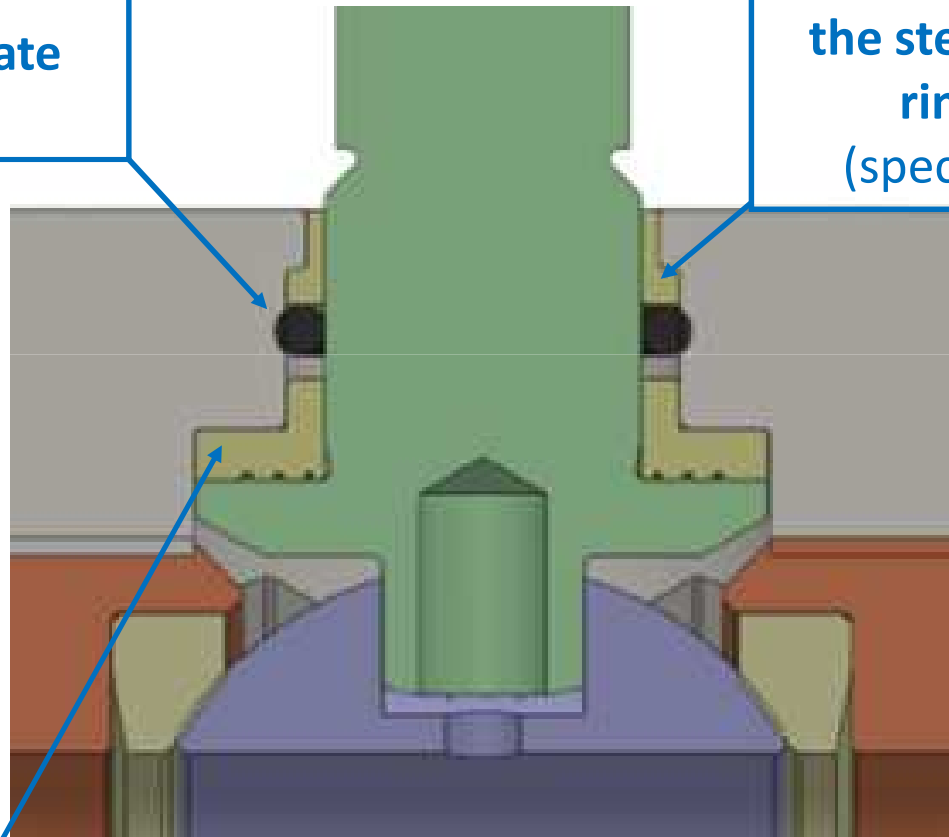
- Different materials (Several type of POLYAMIDE natural and reinforced)
- Different dimensions & shapes
- With & without back O-Ring



OMAL research & development - Stem detail

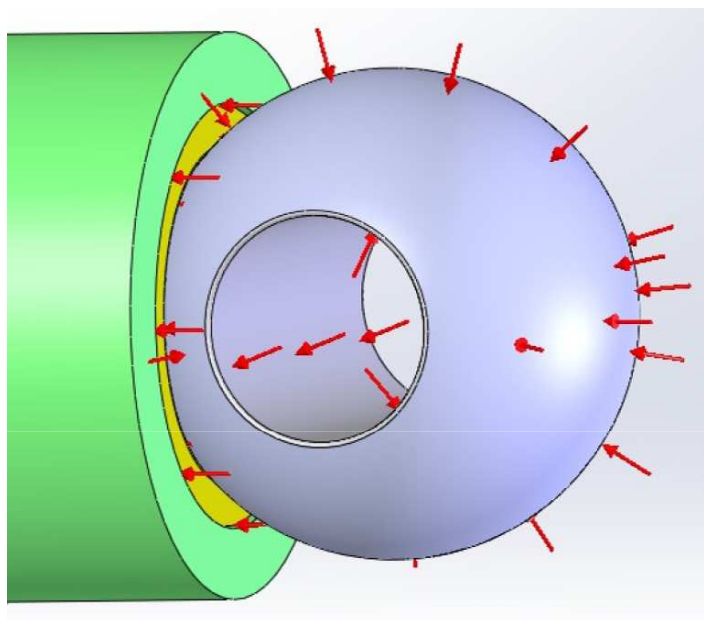
O-RING
With the appropriate
hardness

UPPER BUSCH: to guide
the stem and avoid O-
ring extrusion
(special polyamide)

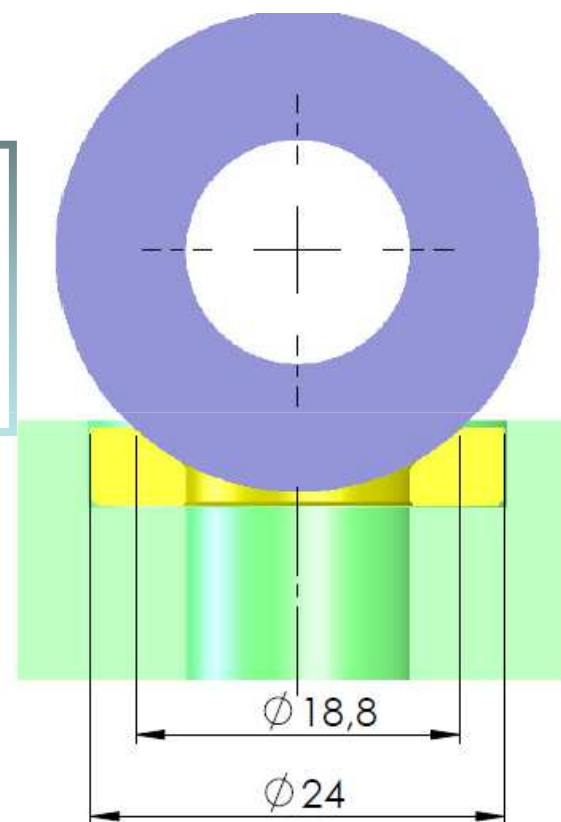


LOWER BUSH: To guide the stem, with a
wide shoulder to resist the high
pressure (special polyamide)

OMAL research & development – Ball detail



**Pressure on
1/2" seat ball**



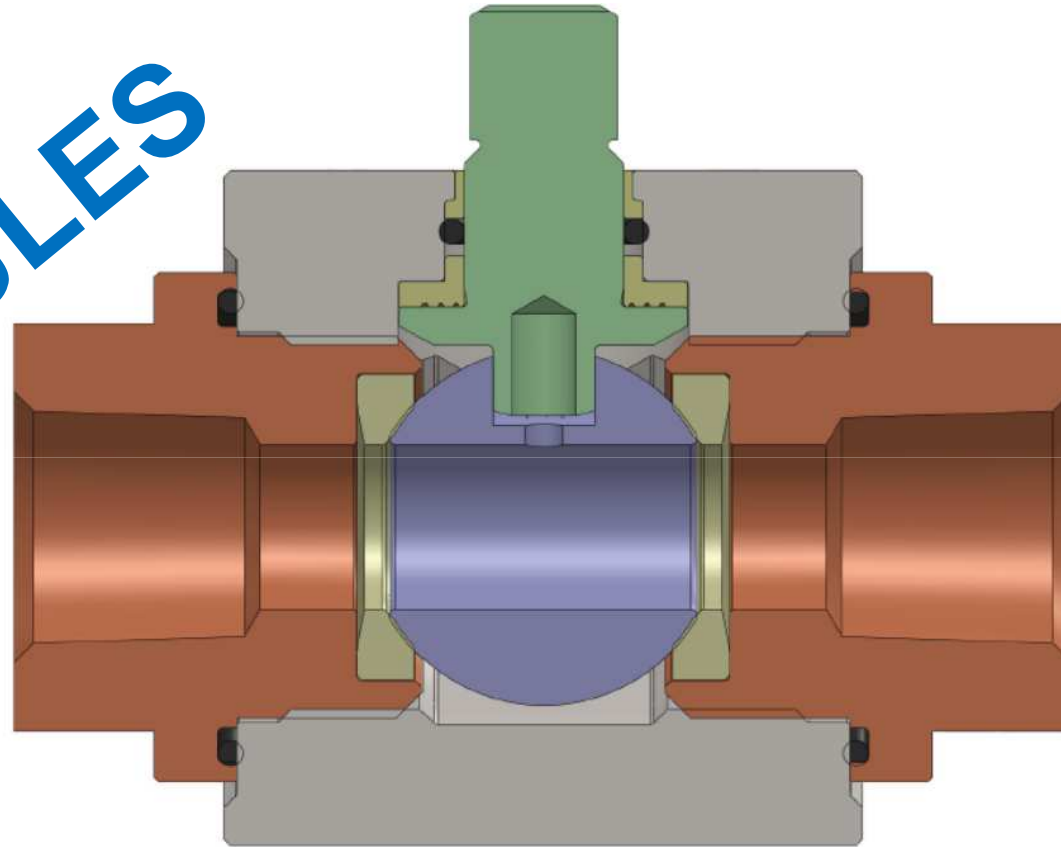
diametro	area	pressione	forza incidente
mm	cm ²	kg/cm2	kg
18,8	2,78	500	1388
24	4,52	500	2262

IMPORTANT is the SEAT material
EXTREME is our special polyamide

HP valves

OMAL research work & project

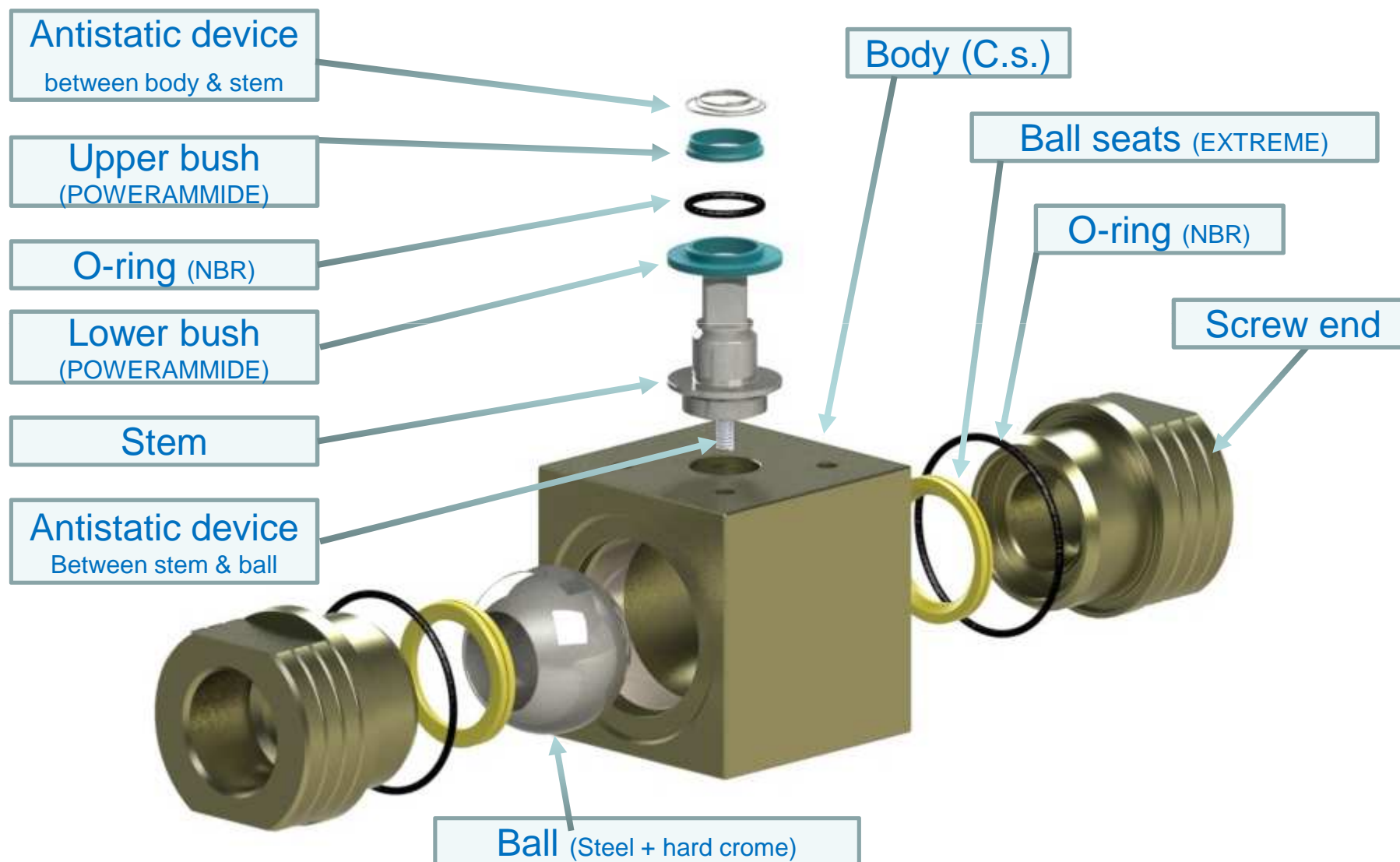
HERCULES



HERCULES lifetime: from min 20.000 up to 50.000 cycles – with CNG up to 80.000/100.000 cycles

Competitor's valves: in same conditions they failed between 650 and 12.000 cycles

Example: part list for c.s. valve for actuator, ATEX

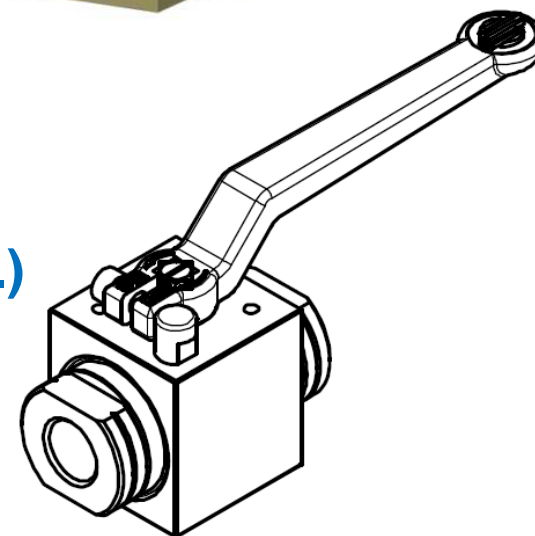




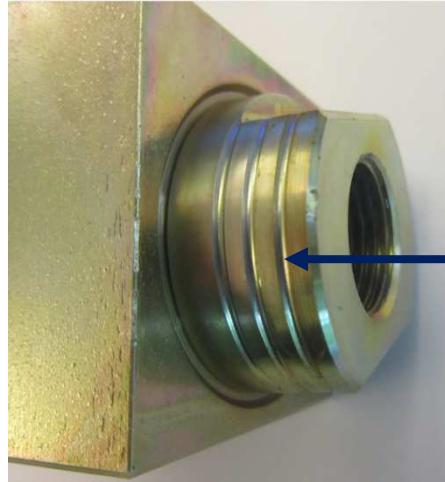
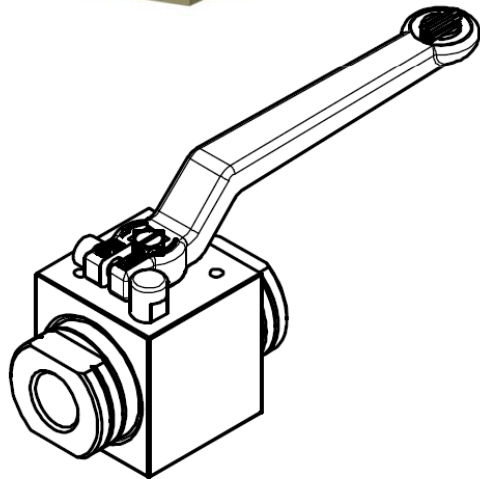
HERCULES

AVAILABLE VERSIONS:

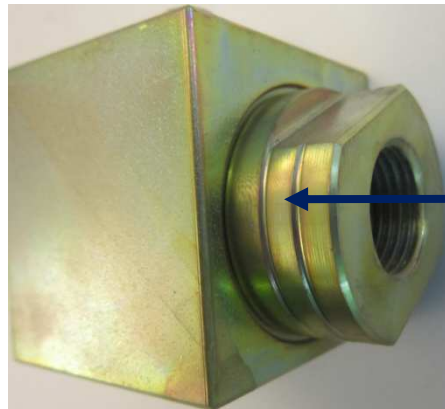
- From 1/8" (DN6) PN 500 / PSI 7000
- Up to 2" (DN50) PN 320 / PSI 4500
- Threaded, both GAS or NPT
- Body: Carbon Steel or Stainless Steel
- With pneumatic actuators DA/SR or electric
- Manual with lever (not possible to actuate for C.S.)
- ATEX II2G conformity, up on request



HERCULES



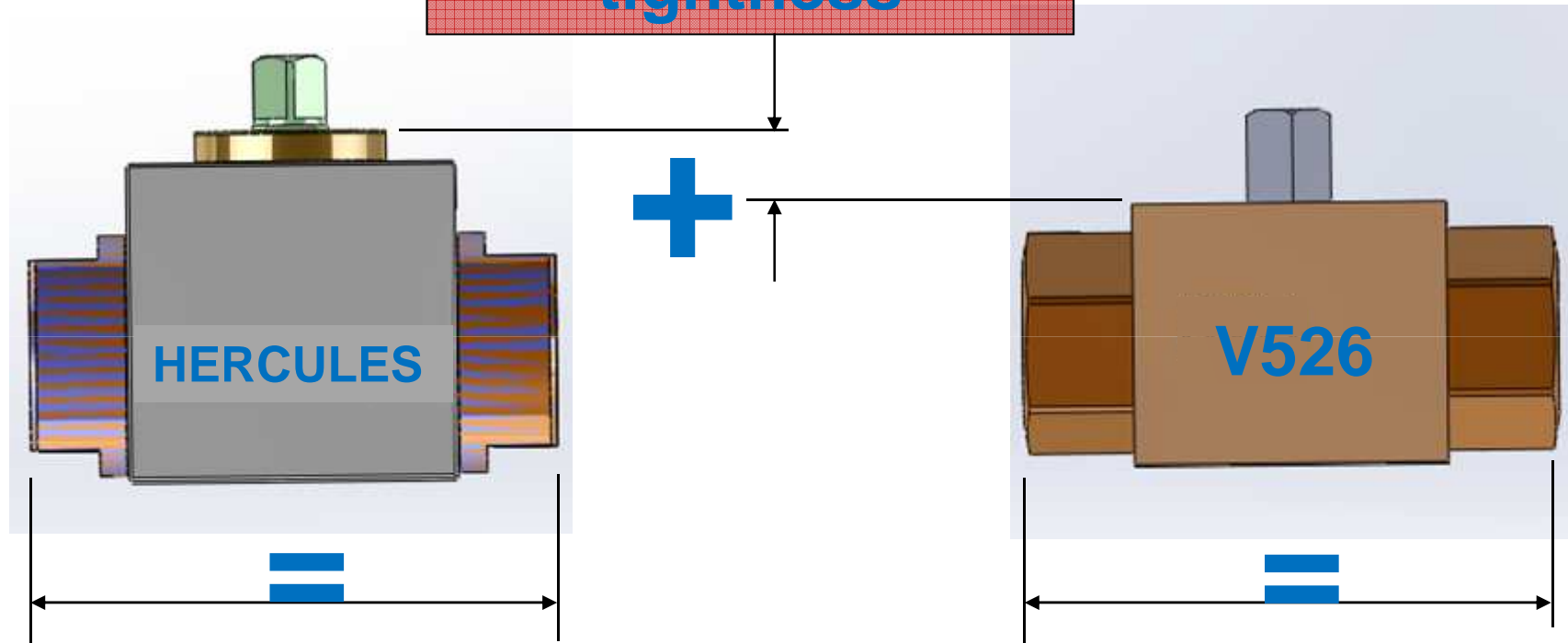
3 grooves for
actuated valve



2 grooves for
manual valve

The manual valves in c.s. can NOT be actuated!

Higher for better
tightness



= Same body length between HERCULES and V526, all size

Same ACTUATOR, only the kit connection is different

HERCULES



The right **High Pressure** Valve