

### VALVE BODY BODY WELDED BODIES

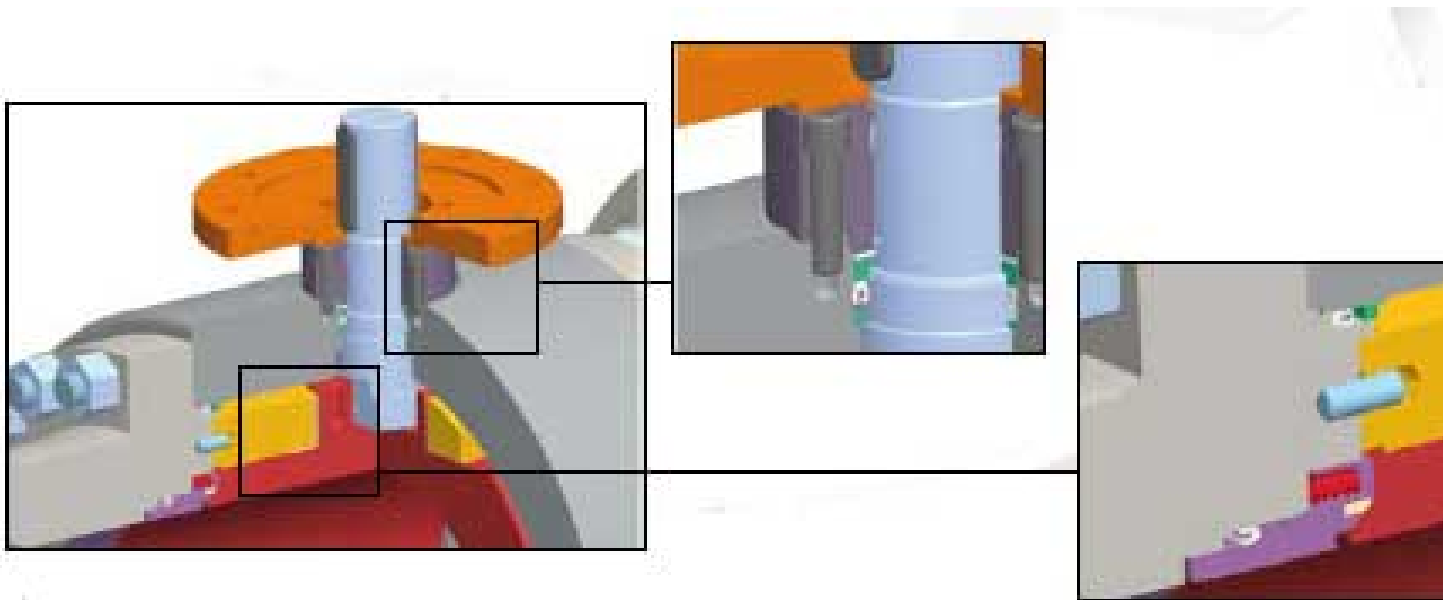
When maintenance is not required, fully welded valves with no leak paths through the body are available for a safer solution.

### TOP ENTRY BODIES

When maintenance in line is required, top-entry ball valves are available. With the stem in the vertical position this valve design permits disassembly, replacement of the all internal parts and seals and reassembly without removing the valve from the line.

### BODY SEALING

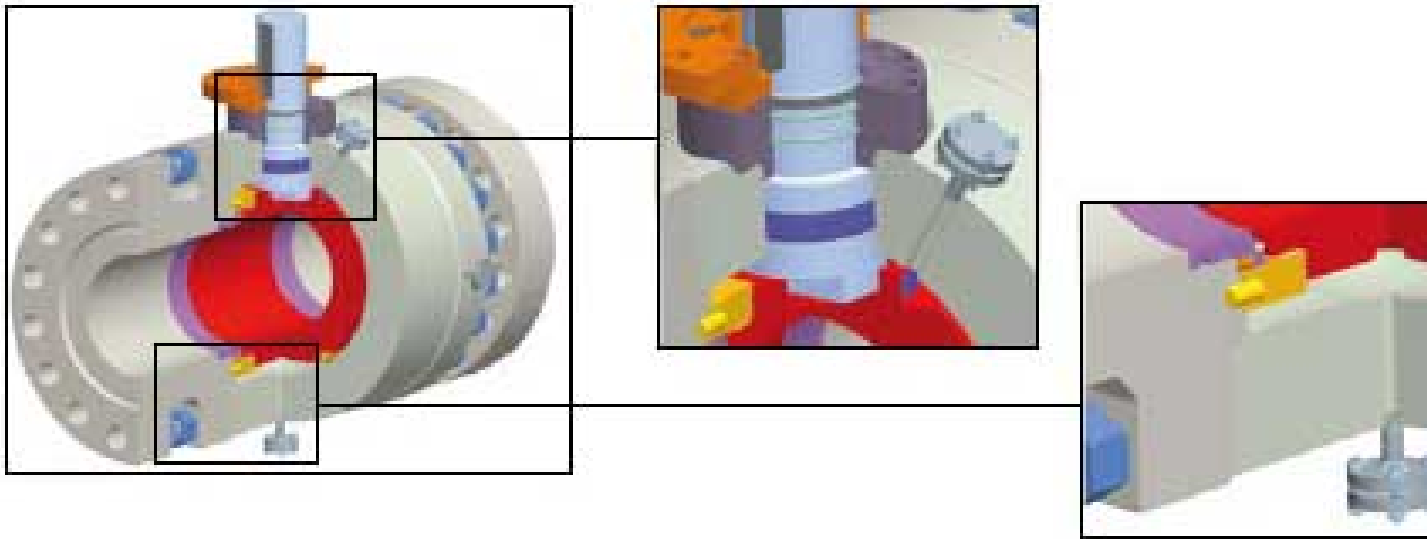
For valves working with gas on pressure Classes  $\geq 600$ , the standard O-ring will be replaced with Anti Explosive decompression (AED) ones. For special service conditions (i.e. cryogenic, or high temperatures) O-rings can be replaced by alternative gaskets suitable for the service conditions (e.g. lip seals)



### DRAIN SYSTEM

Other types of drain connection, such as welded or flanged, are available according to the

purchasers requirements.



### **BLEED VALVE**

Other types of vent valve connection, such as welded or flanged, are available according to the purchaser's requirements.

### **VALVE ENDS**

Other end connections such as special flanges, e.g. Norsok L-005 compact flanged connections, hends, welding ends (pup pieces) or other mechanical joints, may be supplied when specified by the purchaser.

### **TRANSITION PIECES**

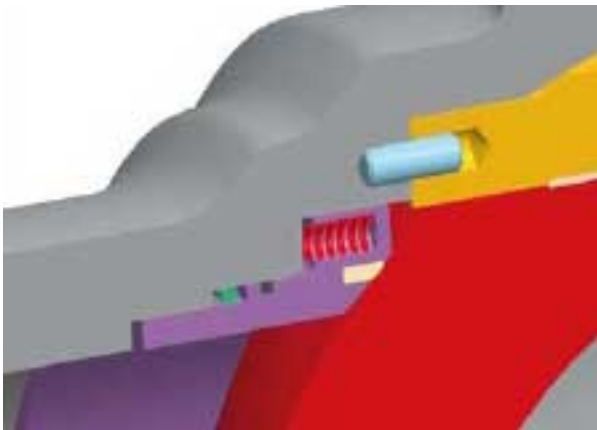
Valves with butt-welded ends are often required complete with transition pieces (pups). After selection of suitable materials depending on pipe thickness, pipe and valve body material, Dafram can weld transition pieces to the valve during the manufacturing process.

### **SEATS, SEAT INSERTS & SEAT SEALINGS**

On request, two other Trunnion mounted valve designs are available:

## **DOUBLE PISTON EFFECT DESIGN**

bi-directional, twin seats valve (with two seats, both seats are bi-directional). This means valves designed for blocking the fluid in both downstream and upstream directions, with two seats, each sealing in both directions: from the valve ends to the valve body cavity and from the body cavity to the valve ends. This valve design improves the sealing capability of the valve adding a double seating surface in line, but an external safety relief valve is needed to allow the release of the cavity over-pressure.



## **DOUBLE-BLOCK-AND-BLEED (DBB)**

According to API 6D definition: Valves with two seating surfaces which, when in the closed position, block flow from both valve ends and allow the cavity between the seating surfaces to be vented through a bleed connection provided on the body cavity

## **UPSTREAM SELF RELIEVING DESIGN:**

uni-directional, twin-seat valve with the upstream seat uni-directional and the downstream seat bi-directional. This combination maintains the sealing capability of the valve in the event of failure of the upstream seat. In addition, as the upstream seat automatically releases the body cavity over-pressure, no safety relief valve is needed for this purpose.

## **SEAT INSERTS**

Other seat insert materials are available on customer request or for special applications:

### **SPECIAL NYLON**

(for temperature range greater than  $-10 / +120^{\circ}\text{C}$ )

### **PEEK**

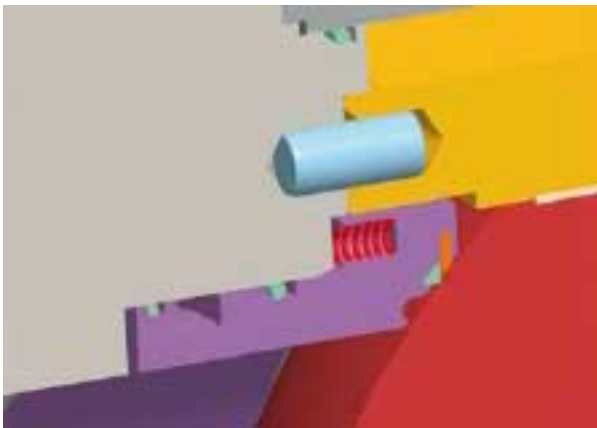
(for temperature range up to  $250^{\circ}\text{C}$ )

### **PTFE or RPTFE**

(for special fluids PCTFE (for cryogenic applications)

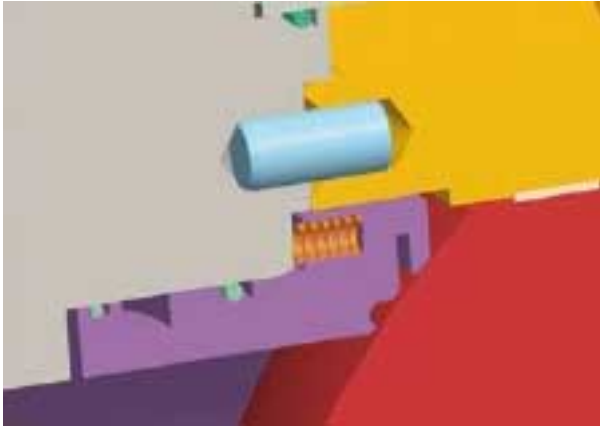
### **FKM**

(suggested for valves working with natural gas at design pressure up to Class 600)



### **METAL SEATING**

Hardfaced Ball and seats to provide a positive seating action in case of abrasive service or in case that the high service temperature does not allow the use of any kind of soft seat insert material.

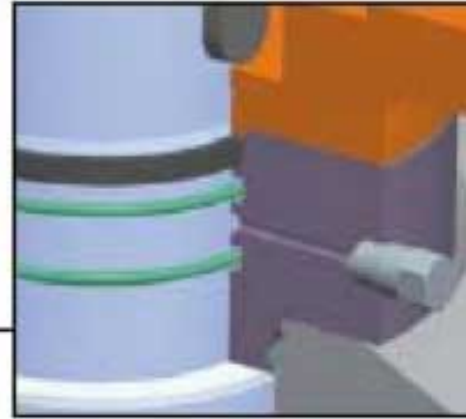
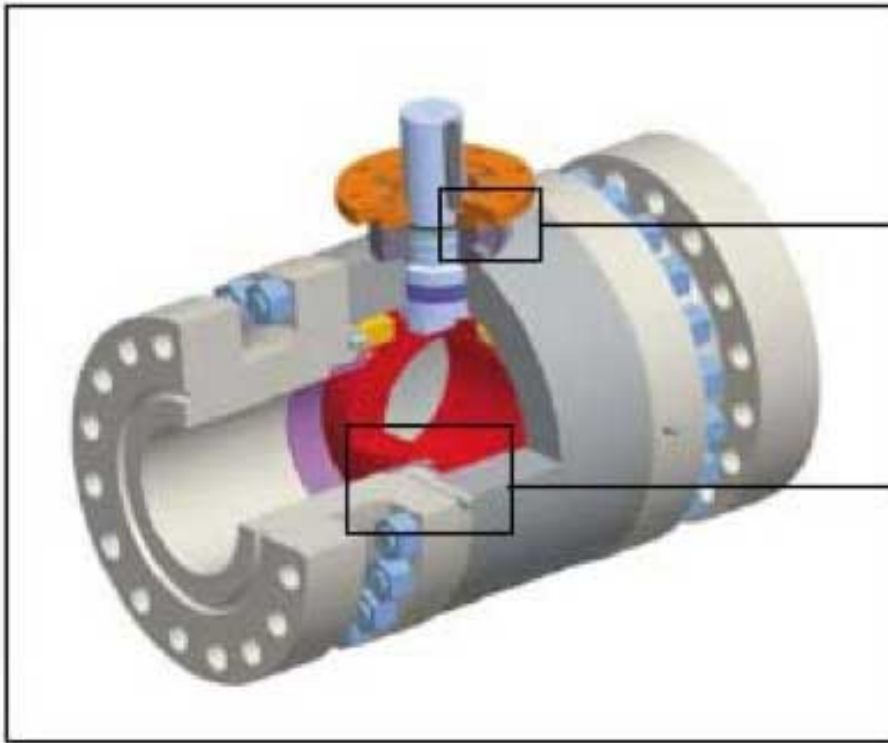


### **EMERGENCY SEALING INJECTION**

Dafram ball valves can be equipped with ports to inject a suitable sealant to restore seat sealing in the event of damage to the soft seat inserts.

### **EMERGENCY GREASE SEALING**

Dafram ball valves can be equipped with ports to inject a suitable sealant to restore stem sealing in the event of damage to the soft stem seals.



### STEM EXTENSION

Extended bonnets and stems are available for valves working in extreme low or high temperatures (below  $-46^{\circ}\text{C}$  and above  $200^{\circ}\text{C}$ ) to increase the distance between the body and the sealing area of the stem.

### STEMS FOR BURIED SERVICE

For valves to be installed underground, suitable extended stems are available. In this case all drain, vent and emergency sealant lines are extended and the relevant pipes are firmly attached to the stem extension