



**KOSO** **PARCOL**

**4-4000 Series**  
**Control Ball Valves**

## Overview

PARCOL 4-4000 Series Control Ball Valves are the best choice to combine high flow capacity with accurate regulation at small flow conditions.

The specific trim design allows high control capability, effective noise reduction on gas flows and anti-cavitation action on liquid flows.

Noise and cavitation prevention, as well as capacity, rangeability, excellent tightness and control characteristics, are optimized for every process condition thanks to the several trim geometries available, which can be configured to best satisfy Customer requirements.

SIZE: from 2" to 48"

RATING: from #150 to #2500

### NUMBERING SYSTEM

4 - 4 X X X

Trim Type	
1	Full Bore
2	V-Port
3	Drilled Disc
4	Double Drilled Disc
5	Perforated Plates
6	Perforated Plates + Drilled Disc
9	Limiphon Trim
Body Type	
1	Side Entry
2	Top Entry
Valve Type	
1	Floating
2	Trunnion

## 4-4003 Drilled Disc Control

Drilled disc, positioned upstream or downstream the ball, is a multipath trim with good anti-noise and anti-cavitation performances.

The variety of orifices in the disc allows to achieve a precise control even with high pressure drop and small flow rate.

Shape and number of the openings can be customized to get optimal results in every condition.



## 4-4005 Perforated Plates Control

The Perforated Plates Trim is a multistage solution which allows to divide the high pressure drop to reduce noise and cavitation risk.

When completely open, the valve has minimum pressure loss and high Cv, due to the alignment of the plates with the flow.

The geometry of the trim makes it unaffected by flow clogging in presence of solid matter.

Types and number of plates and holes are customizable to achieve the performances required by the application.



## 4-4006 Drilled Disc + Plates Control

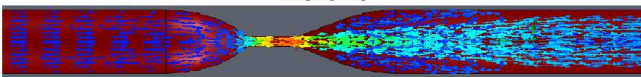
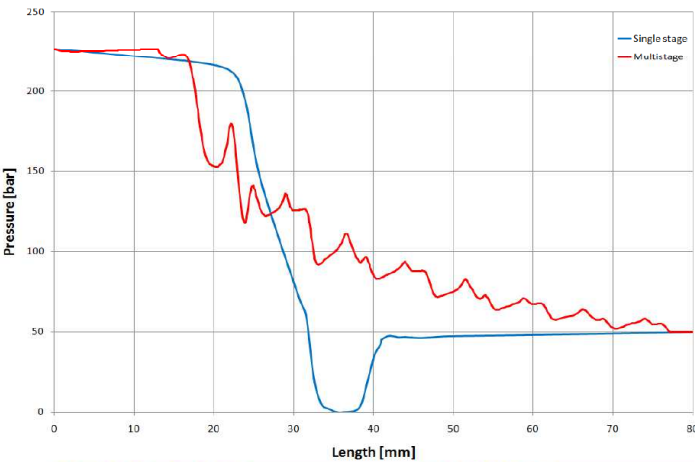
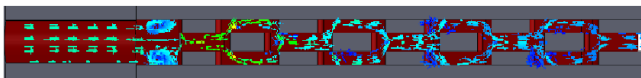
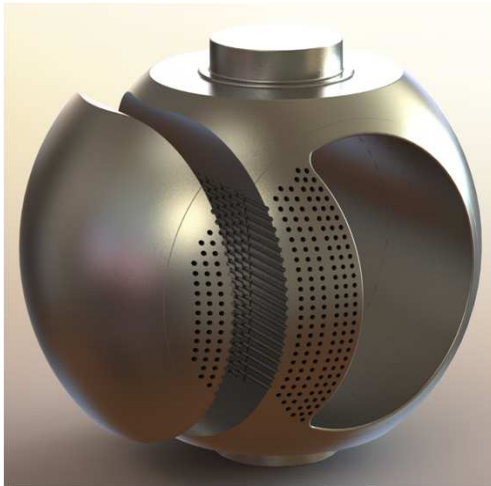
High performance multistage trim, combining high flow capacity with accurate control at small flow rate and high pressure drop. Drilling schemes and number of plates is customizable to face up every design condition.



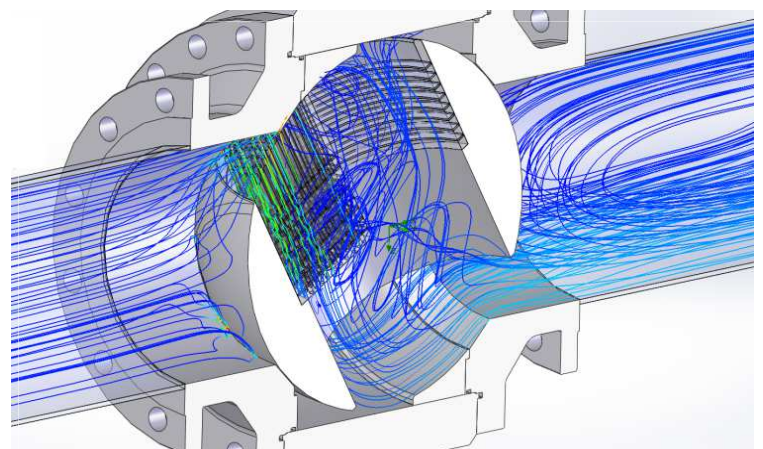
## 4-4009 Limiphon Control

At the top of the product range, Parcol Limiphon multistage-multipath technology applied to Ball Control Valves represents the ultimate solution for severe applications.

This trim, available for liquid and for gas services, withstands very high pressure drops avoiding cavitation and reducing the aerodynamic noise to the level produced by the same flow inside the piping. The flow is split in several streams by forcing it into a set of labyrinths dissipating energy, controlling velocity and limiting vibrations and erosion.



Pressure drop comparison between single stage and multistage multipath Limiphon trim on liquid service



Computational Fluid Dynamic analysis of the flow inside a Limiphon Control Ball Valve

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