eDART PINCH VALVES

E-PUB-01-0021_V01

Manual open frame pinch valves used on the line to the tailings facility

eDART PINCH VALVES

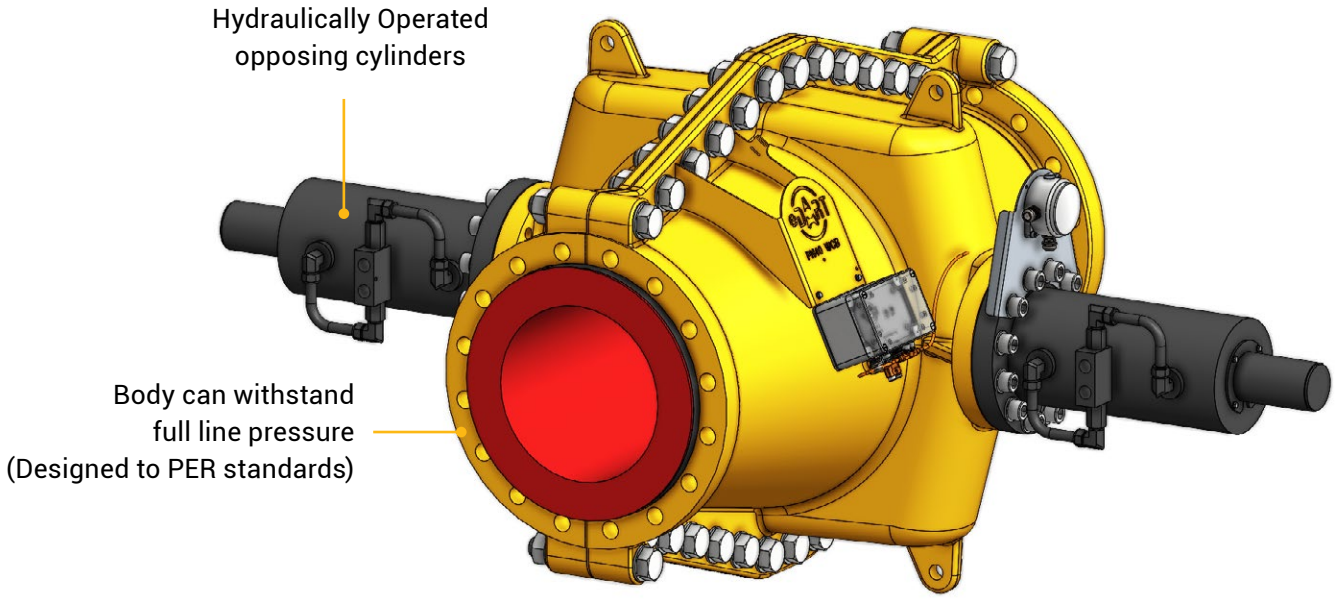
eDART's Pinch Valves are engineered to excel in challenging conditions involving tough slurries, both dry and wet abrasives, as well as corrosive chemical substances. These valves are designed to minimize maintenance requirements while delivering reliable performance.

> ***Notably, the 100% full bore design of these valves is identical to that of a rubber-lined pipe when fully open. This characteristic ensures unobstructed flow and efficient operation, further contributing to the overall effectiveness of the valve.***

ENCLOSED FRAME

HIGH PRESSURE ZERO SPILLAGE

The enclosed frame pinch valve represents our most robust and heavy-duty model. Its design is tailored to ensure that the valve body can withstand the entire line pressure, as per the standards set by PER, even in the event of sleeve rupture. This model finds particular application in high-pressure slurry scenarios, such as tailings lines, where pressures can reach PN16, PN25 and PN40 levels. Notably, this valve offers a dual layer of protection, safeguarding both operators and the surrounding environment.

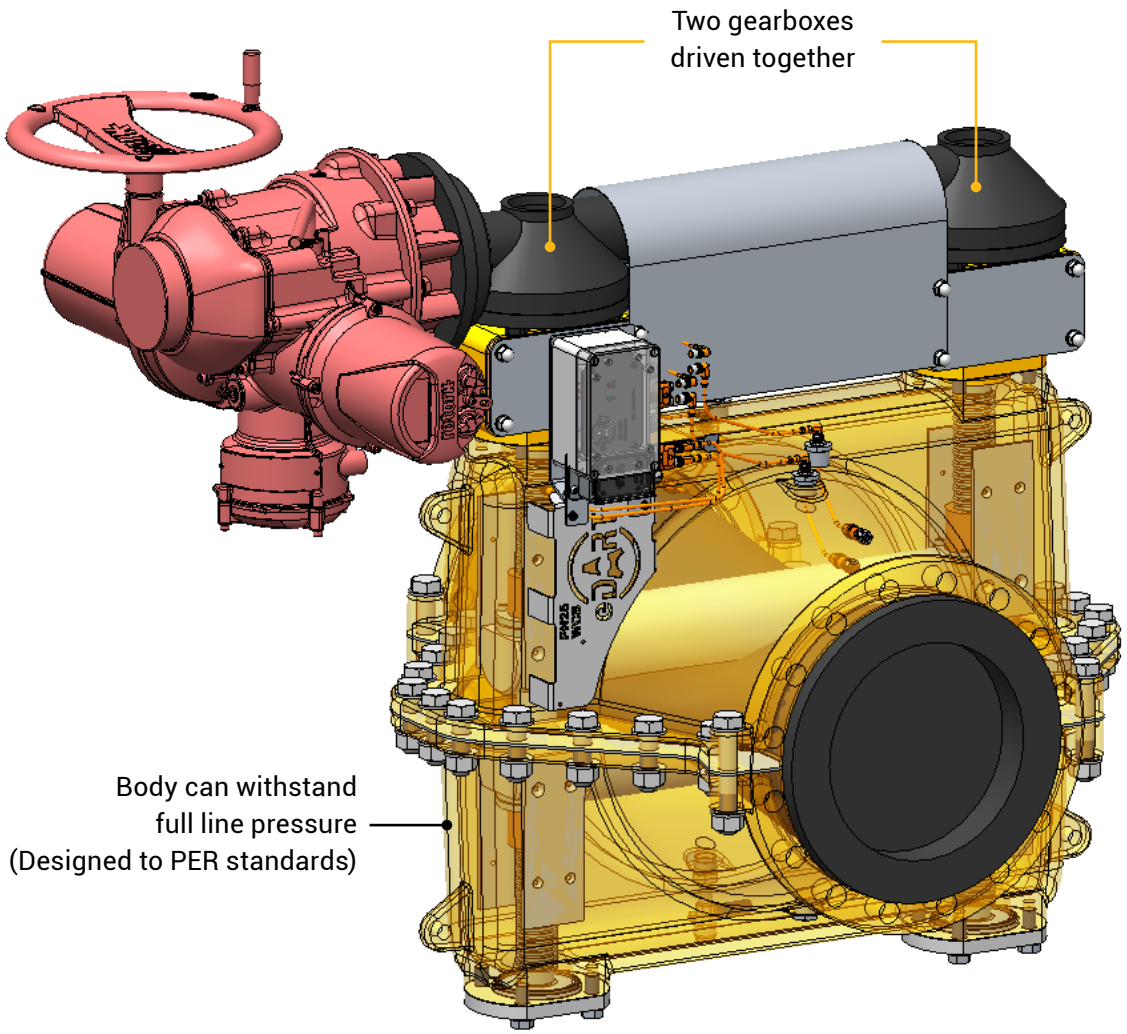


The hydraulic operation of this valve is powered by opposing cylinders. This mechanism contributes to the valve's efficient performance, enhancing its reliability and effectiveness in managing demanding applications.

DUAL SCREW

HIGH PRESSURE ELECTRIC ACTUATION

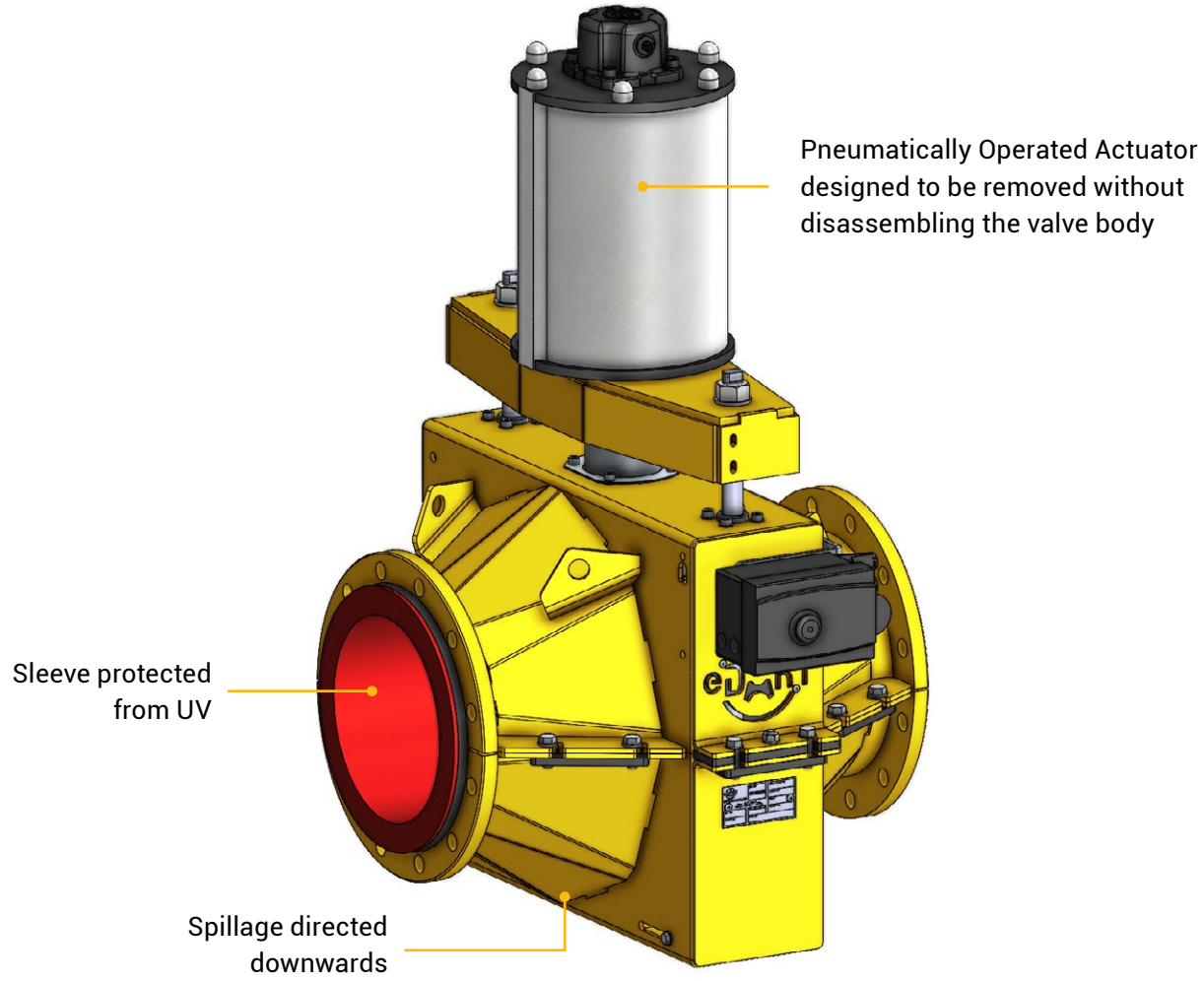
Introducing a novel design for electric actuation in high-pressure enclosed environments. This innovation optimizes the efficiency and precision of electric actuators within confined spaces, ensuring seamless operation even under elevated pressures.



SHROUDED FRAME

PROTECT SLEEVE FROM ELEMENTS

The shrouded frame pinch valve protects the sleeve from UV light and redirects spillage if the sleeve ruptures. It includes a large bottom opening to guide spillage away. Note that this design focuses on spillage redirection, not containment.



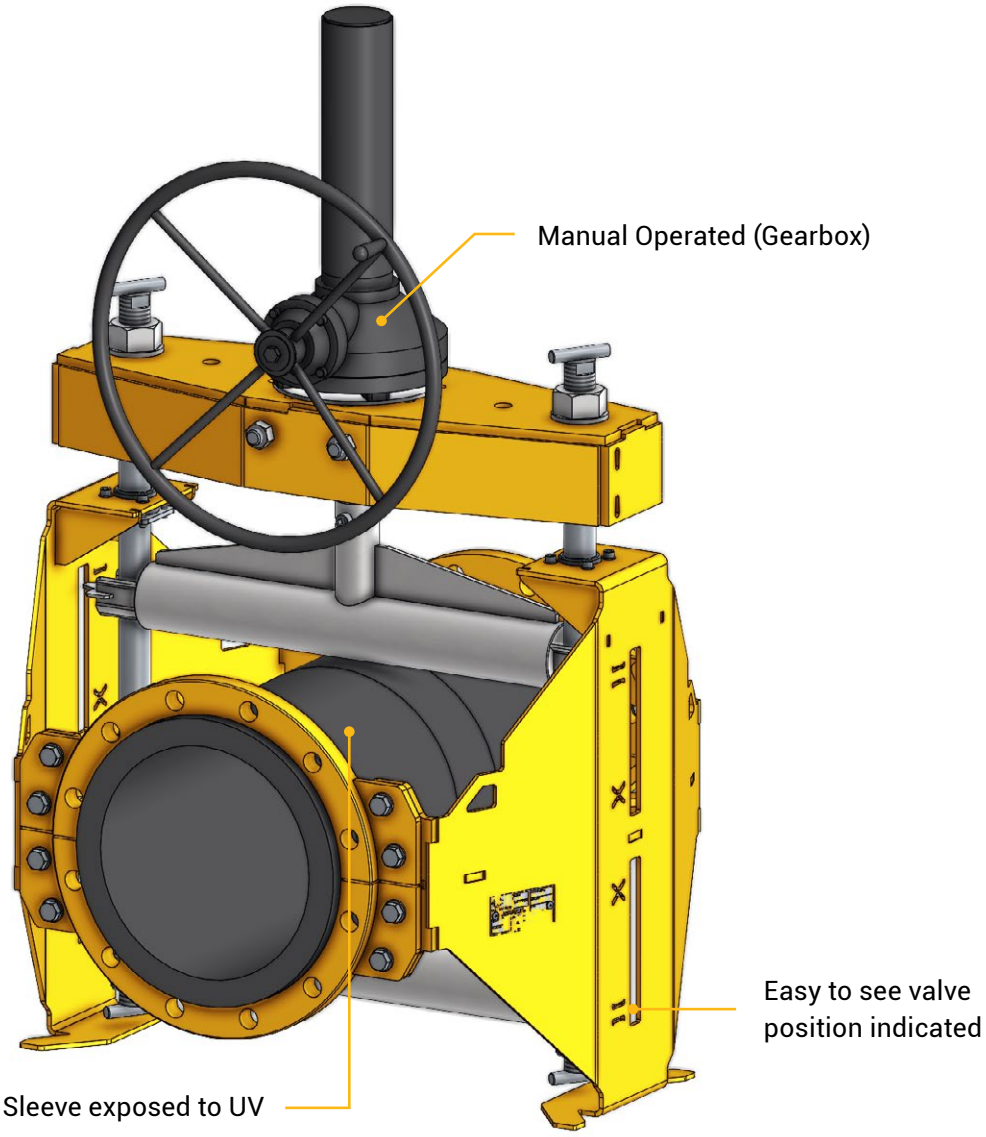
This valve is suitable for PN10 and PN16 applications. The blend of sleeve protection and spillage management boosts valve durability and environmental safety.

OPEN FRAME

COST EFFECTIVE

The open frame pinch valve is offered as the economical pinch valve. There is no compromise on build quality but by removing material used in the shroud or enclosed model, it allows for valve isolation functionality at a more competitive price.

Suitable for applications up to PN10.

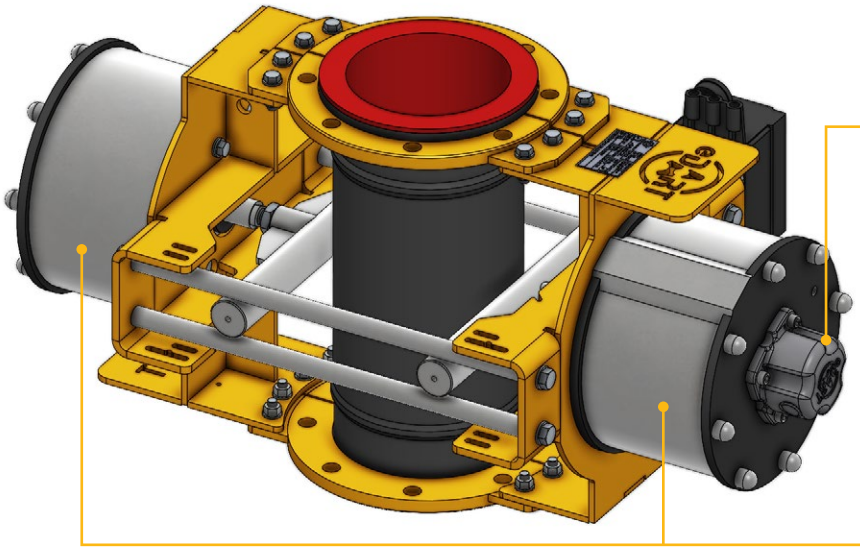


STATIC FRAME

RIGID, FOR NON-HORIZONTAL PIPELINES

This pinch valve employs a frame with two fixed actuators, making it ideal for use in pipelines that are not horizontal. The dual actuators provide stability and control, enabling reliable operation in pipelines with different orientations. This design flexibility ensures effective flow regulation in applications where pipeline angles vary from the horizontal plane.

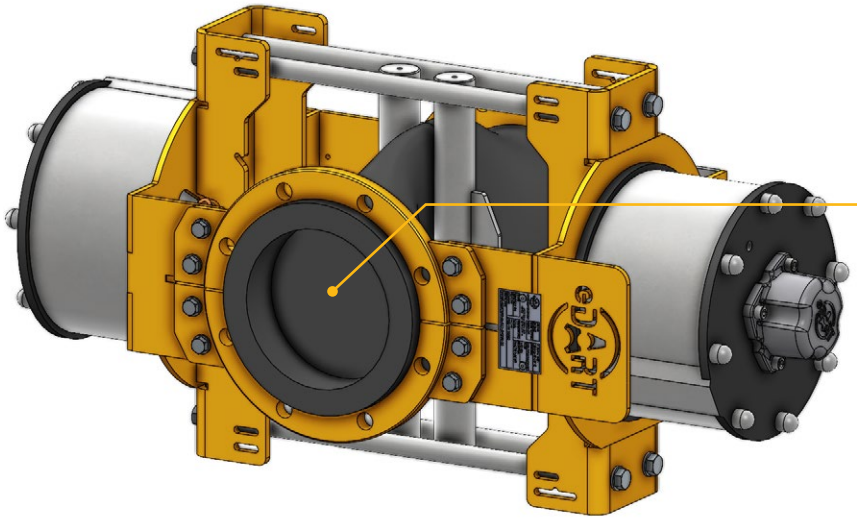
MOUNTED IN VERTICAL PIPE



One internal wire pot is sufficient for suitable control

Rigidly mounted Dual Actuators overcome the issues that a single acting Actuator mounted on a floating frame will have

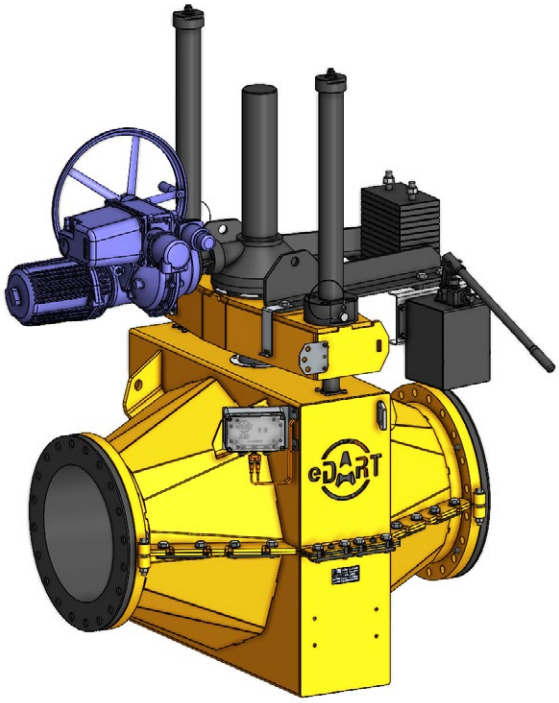
MOUNTED IN HORIZONTAL LINE



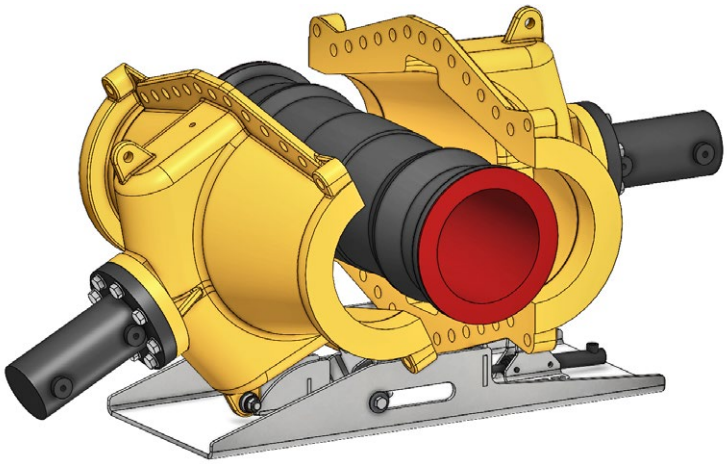
When closed the pinch is vertical which means that as it opens, the solids in the line don't need to ride up and over a “weir”.
This prolongs sleeve life

IN-SITU SLEEVE REPLACEMENT

In-situ patented sleeve replacement system engineered to replace a sleeve in under 30 min: no crane or rigging required and minimum labour. Comes in two versions:



- **High Lift** is a vertical design to lift the upper body upwards to provide easy access for sleeve changing.



- **Easy Change** is a horizontal design with vertical pinch bars and two opposing actuators for sleeve changing.

FEATURES AND BENEFITS

- **Early warning sleeve**

  With embedded sensor to indicate that the wear liner has worn and replacement of the sleeve should be scheduled for the next available shutdown.

- **Internet of Things (IoT)**

  Under development for real time diagnostics (sleeve condition, valve position, line pressure, hydraulics pressures, body cavity pressure, temperature, GPS, etc).

- **100% full bore design**

  Identical to a rubber lined pipe, for no line losses in open position.

- **Pre-Pinched profile sleeves**

  Available for linear valve characteristics.

- **Sleeves**

  Sleeves are available in Natural and Red Gum Rubber to best suit specific applications.

TYPICAL APPLICATIONS

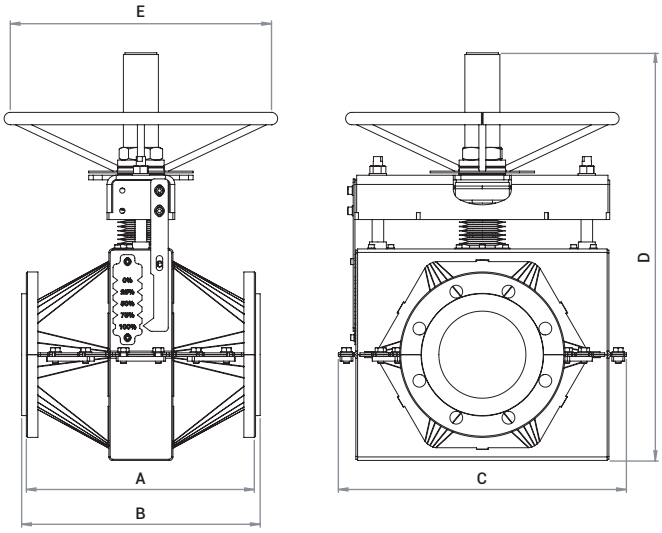
PINCH VALVES TECHNICAL SPECIFICATIONS

AVAILABLE FLANGES

Spec	Pressure	Spec	Pressure
BS 4504/SANS 1123 1000/3	10 bar	DIN PIN 10	10 bar
BS 4504/SANS 1123 1000/16	16 bar	DIN PIN 16	16 bar
BS 4504/SANS 1123 1000/25	25 bar	DIN PIN 25	25 bar
BS 10 TABLE D	6.89 bar	ANSI/ASME B16.1 # 125 (Grey Cast iron, fits to B16.5 # 150)	(<38˚C) 1-12": 13.8 bar 14-24": 10.3 bar
BS 10 TABLE E	13.78 bar	ANSI/ASME B16.5 # 150 (Steel)	17.2 bar

MATERIALS OF CONSTRUCTION

Part	Material Options	Part	Material Options
Body	Stainless Steel 316 or Phenoline Painted S355JR steel	Actuator	Coated endplates and StSt 304 cover or all Stainless Steel 316
Pedestal	Stainless Steel 316 or Phenoline Painted S355JR steel	Sleeve	Reinforced Rubber Optional Natural or Red Gum Rubber wear liner



Higher pressure and larger sizes available on request

DIMENSIONS TABLE

Size		Face-to Face					
mm	in	A (frame)	B (sleeve)	C (width)	D (height)	E (H/W)	Weight (Kg)
150	6	395	411	430	653	450	95
200	8	500	530	510	770	450	119
250	10	615	645	610	1043	600	181
300	12	730	760	780	1309	701	259
350	14	950	990	930	1670	900	438
400	16	1160	1200	1030	1915	GB‡	578
450	18	1310	1350	1090	2015	GB‡	624
500	20	1460	1500	1180	2135	GB‡	656

‡ Gearbox

TALK TO US ABOUT SOLVING YOUR SLURRY-RELATED CHALLENGES

eDART designs and manufactures slurry equipment to improve recovery rates for metallurgical plants. We combine our Computational Fluid Dynamics (CFD) expertise with extensive site experience to reliably solve your complex slurry challenges.

How can we help you?

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