

The perfect solution for PE/PP piping systems

It is common practice to chamfer the standard butt fusion around the diameter of the entrance during the installation of standard butterfly valves in plastic piping, so that the disc does not strike the pipe interior and can open completely (**Picture 1**). A compromise one does not have to accept when mounting the butterfly valve of type Z 414-A or Z 411-A.

The DVS (German Welding Association) requires that the disc valves used in PE/PP - pipes must be completely open and without any danger of touching the inside of the pipe. In cases where this cannot be guaranteed, the Association recommends building of spacer pieces on both sides which can be adapted to the inner diameter of the pipe as well as to the valve orifice. The taper-shaped slanting of the pipe-to-flange joint is only allowed, according to DVS, if this has no adverse effect on the flange connection. However, the pipe-to-flange joint manufacturers see chamfering of the coils as a reduction of safety because of the reduced wall thickness and emphasise that the contact surface of the flange gaskets is also reduced. The contracting authority can require proof for the reliability of machined flange connections to make sure that the appropriate system components comply with the requirements.

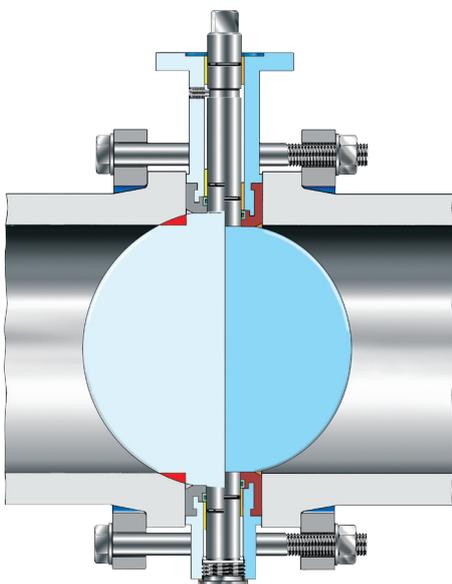
The effort and costs for the planning and implementation of additional restructuring measures can be avoided, if a valve is fitted which takes into account the particular details of the installation in plastic

pipeline constructions:

The series Z 411-A shut-off valves wafer flange with through holes) (**Picture 2**) and the Z 414-A (lug type with tapped lugs) (**Picture 3**) are specifically designed for plastic pipeline constructions. The outlet dimension of these valves is specifically matched to the inner diameter of the thick-walled PE-HD and PP plastic pipes (SDR 17.6, 11, 17 and SDR 33). The benefits from the use of this valve are obvious:

- Cost savings - no additional costs for planning and installation
- The chamfering of the pipe-to-flange joint and the associated weakening due to compression are eliminated.
- The use of additional spacers is eliminated.
- The plant safety is ensured.
- Short length and low weight make installation easier.

Technical current advantages of Ebro design The centrally-mounted industrial valves from the series Z are standardised according to EN 593 and suitable for mating flanges from welding assemblies according to DIN 16962/93 and loose-type flanges according to DIN 2501-400A. The short overall length according to EN 558 series 20 and the light-weight aluminium housing of the intermediate flange series ensure that even complex support structures are not required. The butterfly valve is installed with a housing made of ductile iron GGG-40. The one-



Picture 1: Comparison installation situation in PE / PP piping: left is a standard butterfly valve, right is a series Z 400A (Z411 A or Z 414 A).



Picture 2: Wafer type butterfly valve type Z 411-A with pneumatic single-acting (or: spring-acting) powered type EB-SYS.



Picture 3: Butterfly type Z 414-A with double acting pneumatic actuator drive type EB-SYD and limit switch box type SBU.

piece, stable housing is entirely elastomer lined, so direct media contact with the housing is avoided and tightness to the through shaft and the flange seal is optimal, eliminating the need for additional flange seals. There is a variety of suitable elastomers available, for different applications. The valve is approved for gas and water DVGW applications. The liner is retained in the housing and protected against milling, so that the installation and use in vacuum are permitted in certain conditions. The specific labelling, with a nominal diameter, da-specified (outside diameter of the plastic tube) and SDR standard guarantees secure and safe location in the pipe and the quick and simple installation ensures the correct purpose for its intended use.

The Z 411 and 414 Z series can be delivered in sizes 50 - 630 and can be easily automated according to EN ISO 5211 due to ISO 5211 the control interface.

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