

AF Blow-Through Rotary Valve for Alternative Fuels



- Slide in seal
- Soft and hard seal option
- Wear lining on flat flanges and cylindrical body
- Variable nozzles
- Effective emptying by design of starwheel and trough
- Cleaning knife
- Overall maintenance concept
- TorqLOC drive concept

Application

The AF Blow-Through Rotary Valve has been especially designed and developed for the in-line feeding of non-homogeneous alternative fuels into pneumatic conveying systems within the Cement, Lime, Gypsum and Power industries. Robust in design and performance the AF is capable of feeding a wide range of alternative fuels including shredded plastics, foil chips, conditioned sewage sludge, wood chips and saw meal, palm kernel shells, rice husk, animal meal and various mixed combinations.

EU-Qualification Approval

- ATEX directive 2014/34/EU: 1/2D Ex h IIC T130 °C Da/ Db & 2/2G Ex h IIB T4 Gb/ Gb
- Optional pressure shock proofed EN14460:2007 10 bar

Design

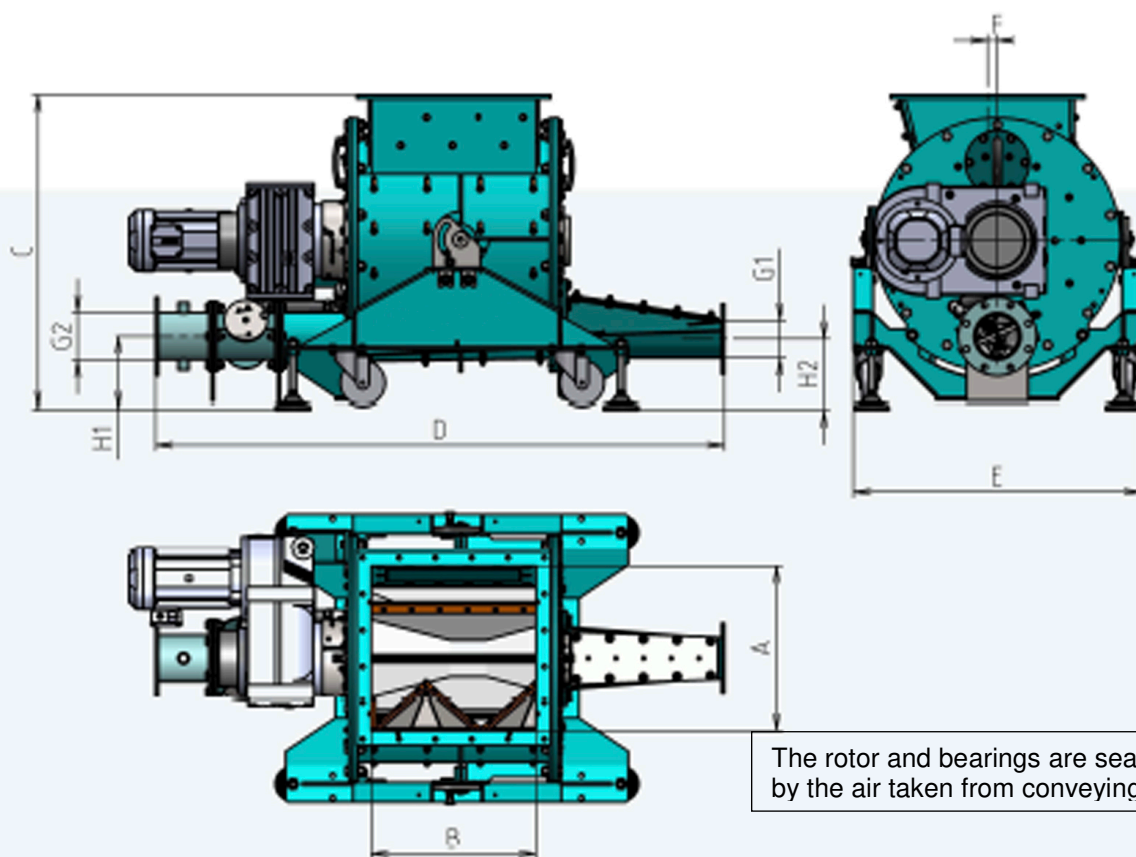
A robust and compact design ensures high efficiency performance and energy saving. As the wear can't be avoided but reduced, the main factors that were taken into consideration is the maintainability, and flow optimization emptying the chamber. Here plays a big role concept of slide in seals (hard or soft) and turn able body around transverse axes for ease remove of star-wheel when changing high resistance wear parts as cylindrical lining of body and/or lining of flanges. The operation is eased by variable nozzles which do allow setting the desired back pressure without need of disassembling any parts. To reduce the blockages in inlet area a teeth shape cleaning knife was designed to place the hanging material on blade of starwheel into the chamber and so reduce the cutting.

Operation

The AF Blow-Through Rotary Valve is used as a feeding device to directly feed of non-homogeneous alternative fuels into pneumatic conveying lines at conveying pressures of up to 350 mbar. The geometry of the unit's inlet, chambers, conveying channel and outlet guarantee efficient material flow into the pneumatic conveying line thus a high material conveying to air ratio is achieved.

Mechatronics

Full sensor and control functions for integration in the system on the carrier air and material flow side. Automatic reverse mode in the event of blockage of the starwheel as a result of an operating fault, e.g. overfilling in the infeed area. If there is a blockage, the upstream device is stopped and the starwheel and automatically reversed and restarted three times.



Model	A	B	C	D	E	F	G1	G2	H1	H2
AF 7	500	590	1120	2040	1030	35	DN 100-150	DN 150	255	245
AF 15	744	590	1460	2040	1330	37	DN 175-250	DN 200	300	290
AF 20	880	690	1770	2240	1570	61	DN 250-300	DN 250	385	385

Model	AF 7	AF 15	AF 20
Max gravimetric federate [t/h]	9	20	25
Max. volumetric federate [m³/h]	70	150	200
Nominal/maximal particle size, 2D 1-3% [mm]	30/60	60/80	80/150
Rated speed [min⁻¹]	19	16	13
Number of chambers	10	10	12
Electric motor [kW]	5,5	7,5	9,2
Approx. weight [kg]	1500	2300	3500
Weight of 10bar version [kg]	1700	2600	N/A
Recommended height of chute [mm]	900±100	1000±100	1000±100
Maximum backpressure design [mbar]	350	350	350
Nozzle adjustability range [m³/h]	1000-2000	2000-4000	3500-6000
Max. leakage air [Nm³ at 350 mbar back pressure hard seal/soft seal]	400/200	850/600	1000/800
Nozzle pressure loss recommendation [mbar]			
RDF, Fluff [recommended hard seal]	150-200	150-200	150-200
Rice Husk [recommended soft seal]	100-150	100-150	100-150

Coperion

7901 NW 107th Terrace
 Kansas City, MO 64153
 816-891-9300
 info@coperion.com
 www.coperion.com/fpm