awareness
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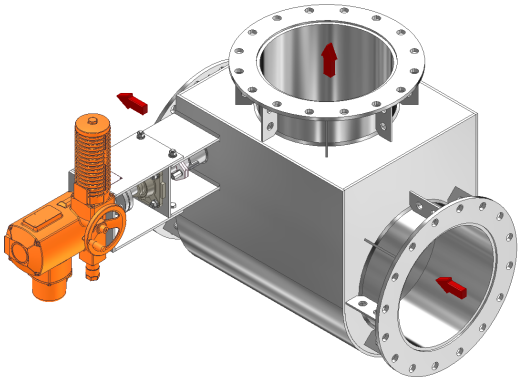
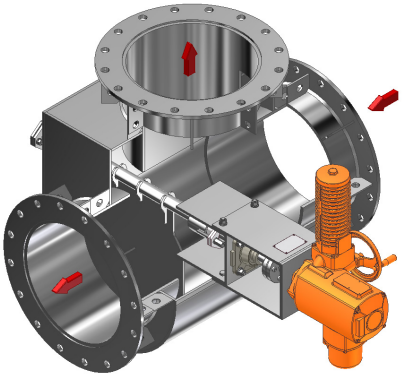
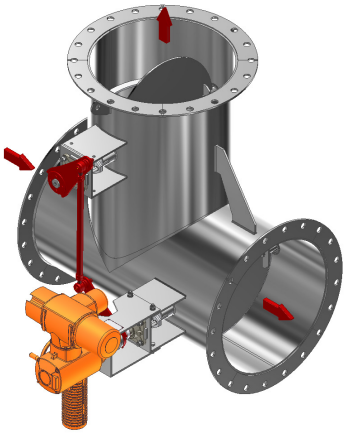
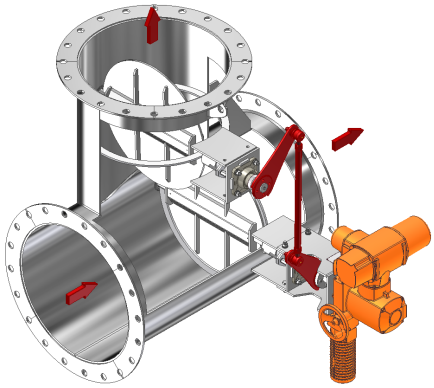
technology

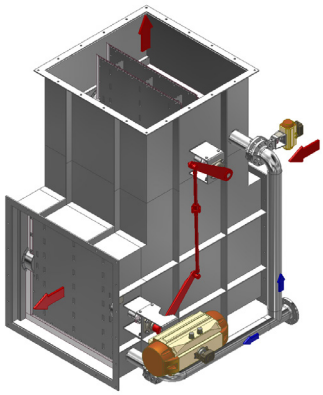
AFT-DVR and T version

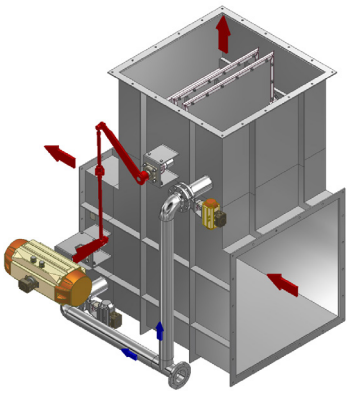












Diverters for round and rectangular ducts

Technical description

Diverters type AFT-DVR / AFT-DVR-T are designed to divert the flow of high temperature exhaust gases, emitted by gas turbines or stationary engines, to a waste heat exchanger or alternatively through a chimney to the ambient atmosphere.

Diverters are in fact big size 3-way valves, which have connections identical with their adjacent inlet and outlet ducts.

Sophisticated design and precise assembly, enabling compensation of thermal deformations, are the most important features of our diverters. Applied materials are resistant to high temperatures, efficient thermal insulation prevents from heat losses and also protects the structure against high temperature influence.

Product properties

Diameter / Dimension range
DN350 – DN1800 / 350x350 – 2000x2000
(other sizes on request)

Mounting connection
- flanges acc. to DIN 24154
- flanges acc. to DIN 24193
- flanges PN6, PN10, PN16 (acc. to EN1092-1)
- custom-made acc. to customer requirements (ANSI / GOST / other)
- welding ends

Design pressure
< 0,5 bar

Mounting of actuator
acc. to ISO 5211

Glang packing
graphite
(other depending on medium and temparature)

Working position of diverter
- horizontal shaft (recommended)
- vertical shaft

Depending on the transportation possibilities, diverters are built in one piece or in parts to be mounted together on their allocated place.

Schematic diagram of diverter type

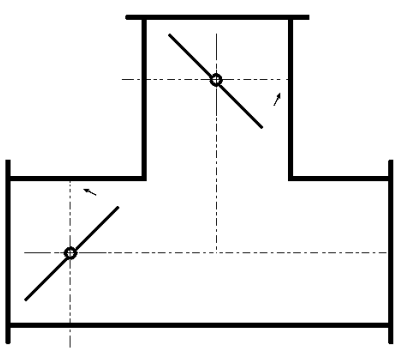
Each device is individually designed to fulfill requirements of technical specifications of the installation.

Flap diverters (DVR), designed by AFT, assure an even distribution of thermal and mechanical stress, as a result of calculations of the complete structure of the diverter using the finite elements method. For „metal to metal" type sealing, tightness amounts up to 98%.

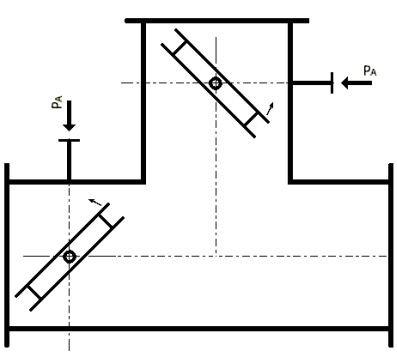
AFT also offers diverters (DVR-T) of 100% tightness, using a so called „air gate". This type of diverters are equipped with special sealing profiles mounted on both sides of the blade (tandem type) creating a closed space for sealing air delivered by a fan set. In order to assure 100% tightness of the diverter, the „air gate" pressure has to be higher than the pressure of the medium to be cut off.

Each diverter manufactured is subject to technical tests, which are specified in the documentation. Especially the tightness of the diverter is confirmed by a test report. Tightness tests are made after connecting the diverter to the test bed fan unit, where leakage measurements are possible.

Diverter AFT-DVR

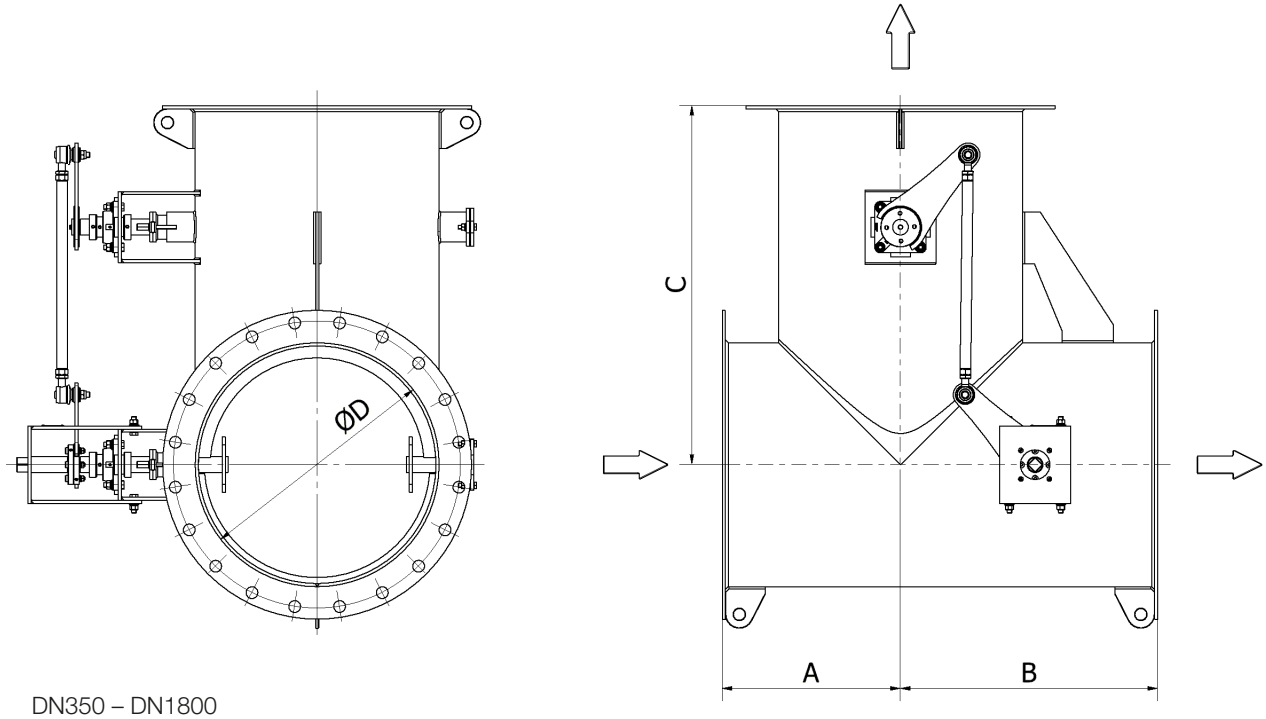


Diverter AFT-DVR-T



P_A - air pressure (sealing air)

Overall dimensions



Ø D DN350 – DN1800
▨ 350x350 – 2000x2000
A, B, C dimensions acc. to customer requirements

Materials*

	Temperature			
	up to 370°C	**from 370°C up to 450°C**	**from 450°C up to 550°C**	**from 550°C up to 750°C**
Body	S235JR or S355JR X5CrNi18-10 (1.4301)	P265GH X5CrNi18-10 (1.4301)	16Mo3 X15CrNiSi20-12 (1.4828)	X15CrNiSi20-12 (1.4828) 253 MA (1.4835)
Disc	S235JR or S355JR X5CrNi18-10 (1.4301)	P265GH X5CrNi18-10 (1.4301)	16Mo3 X15CrNiSi20-12 (1.4828)	X15CrNiSi20-12 (1.4828) 253 MA (1.4835)
Shafts	X20Cr13 (1.4021)	X20Cr13 (1.4021)	X15CrNiSi20-12 (1.4828)	X15CrNiSi20-12 (1.4828)
Sealing	graphite	graphite	graphite	graphite

* - standard executions

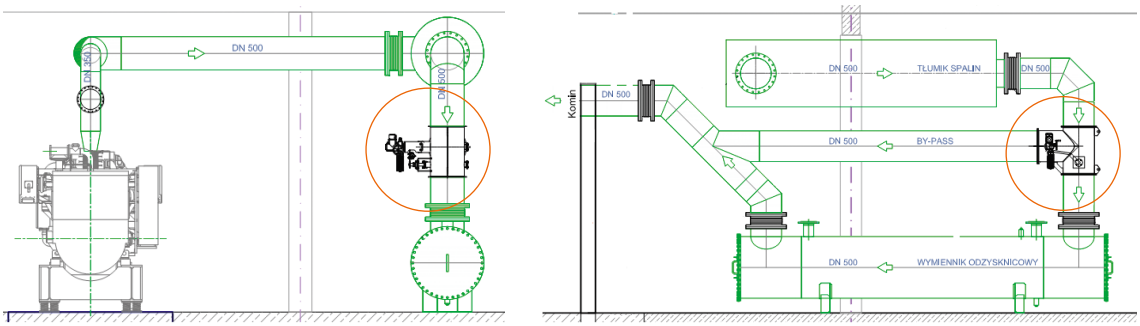
Final material execution depends on specific medium, working conditions and customer requirements.

Diverters actuators and accessories

Single or double acting pneumatic actuators (quarter turn, linear)
Equipment:
- solenoid valve
- electromechanical limit switches or proximity

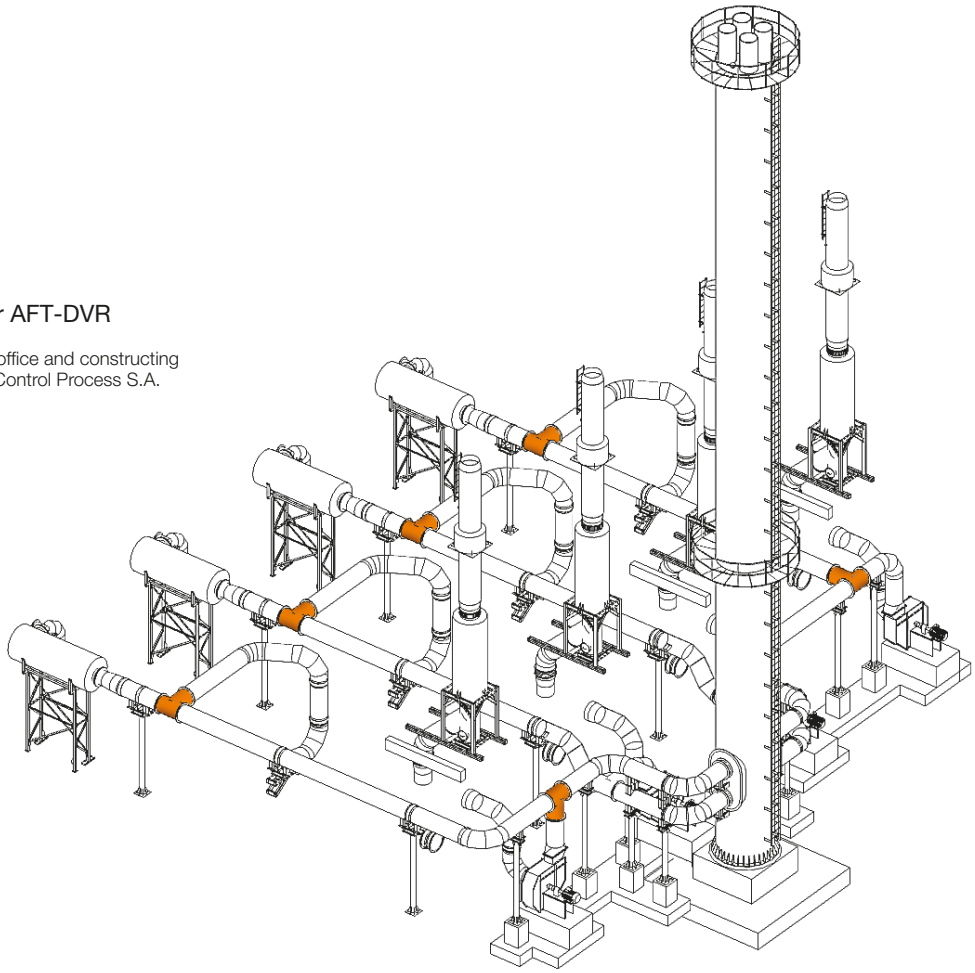
Open/close or regulating electric actuators
Equipment:
- stroke and torque limit switches
- position transmitter 4-20mA
- positioner
- local control unit
- equipment for PROFIBUS, HART systems etc.

Diagram of cogeneration plant with application of AFT-DVR diverter



The drawing shows the positioning of AFT-DVR diverters in a plant with cogeneration generating set

Cogeneration plant in crude oil mine Lubiatów-Międzychód-Grotów (*)



● diverter AFT-DVR

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