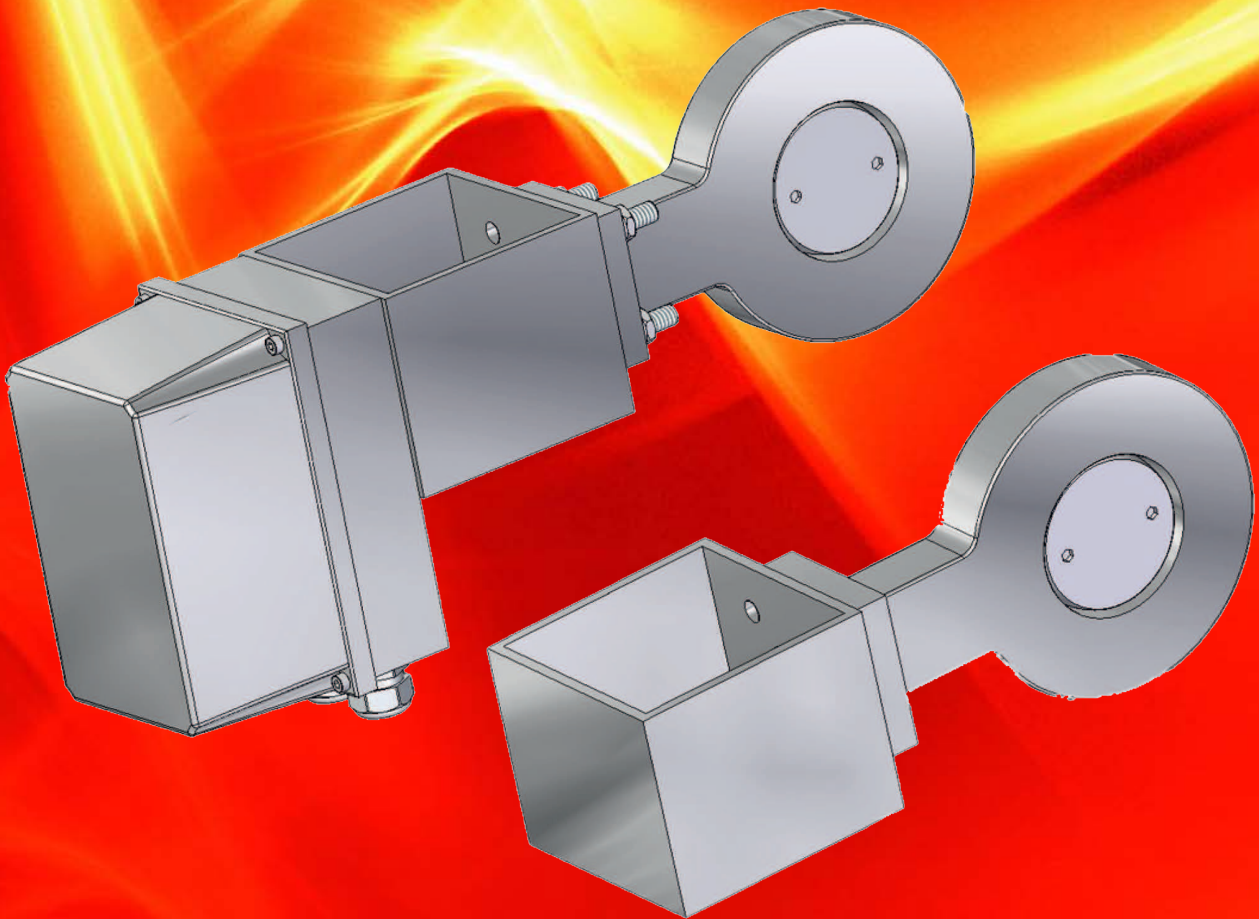


Gas Damper for Linear Flow



662R25 (-20 ... +60 °C / -4 ... +140 °F)

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1 Important Information about this Document

1 Important Information about this Document

1.1 Validity of these Instructions

These instructions apply to LAMTEC gas damper 662R25

This equipment is to be used only in accordance with these basic documentation:

- Electrical LAMTEC actuator (DLT7210)
- Electrical actuator for CMS (DLT210...)
- BurnerTronic BT300 (DLT1201)

1.2 Target Group

These instructions must be read carefully and completely before commencing with any work. The basic prerequisite for working safely is compliance with all the specified safety instructions.

NOTICE

- ▶ All assembly, commissioning, troubleshooting and maintenance work may only be carried out by authorised and trained personnel.
 - ▶ The device may be operated and maintained only by those who are capable of doing so in terms of their level of knowledge and training.
 - ▶ For safety reasons, access to parameter settings must be restricted to authorised and trained personnel.
-

1.3 Safekeeping of the Manual

Store the manual and all related documents in a safe place.

The manual is part of the product and must be kept safe and be accessible to personnel at all times.

In addition, it is important that the manual:

- Is available when required.
- Is kept for the entire service life of the device.
- is available to the subsequent operator.

1.4 Standards, Directives and Approvals

Approval:

EU Type Examination Certificate according to EU Regulation 2016/426 (regulation on appliances burning gaseous fuels)

2 General Safety Instructions

2.1 Classification of the Safety Instructions and Warnings

The following symbols are used in this document to draw the user's attention to important safety information. They are located at points where the information is required. It is essential that the safety information is observed and followed, and that applies particularly to the warnings.

DANGER!

This draws the user's attention to imminent danger. If it is not avoided, it will result in death or very serious injury. The plant including its surroundings could be damaged.

WARNING!

This draws the user's attention to the possibility of imminent danger. If it is not avoided, it may result in death or very serious injury. The plant including its surroundings could be damaged.

CAUTION!

This draws the user's attention to the possibility of imminent danger. If it is not avoided, it may result in minor injuries. The plant including its surroundings could be damaged.

NOTICE

This draws the user's attention to important additional information about the system or system components and offers further tips.

The safety information described above is incorporated into the instructions.

Thus, the operator is requested to:

- 1 Comply with the accident prevention regulations whenever work is being carried out.
- 2 Do everything possible within his control to prevent personal injury and damage to property.

2 General Safety Instructions

2.2 Product Safety



CAUTION!

- ▶ In order to maintain the perfect safety-related condition, it is imperative that the fitter/user strictly adhere to the manufacturer information from this documentation and have the appropriate professional qualification.
-

NOTICE

- ▶ The gas damper must only be used for the purpose corresponding to their design.
-

NOTICE

- ▶ The gas damper must only be operated with an adjusting mechanism intended for this purpose (actuator, hand lever, etc.).
-

NOTICE

- ▶ Likewise, the gas damper must only be operated in accordance with the values specified in the technical data.
-

NOTICE

- ▶ The gas damper must not be mounted, commissioned or adjusted on defective supply lines or flanged system parts. This same applies for damaged actuators.
-



CAUTION!

- ▶ Use caution when touching the surfaces. Risk of combustion and freezing.
 - ▶ Depending on the permissible medium temperature, the surfaces of the gas damper can become hot or very cold.
 - ▶ The operator must ensure the necessary protection against contact.
-

2 General Safety Instructions

2.3 Product-specific Dangers



CAUTION!

- ▶ The mounting, maintenance and commissioning of the gas damper may only be carried out by qualified specialists.
-



CAUTION!

- ▶ Before mounting or maintenance work on the gas damper, all affected devices/machines/plants must be switched off!
 - ▶ The gas supply must be disconnected.
-



CAUTION!

Before switching off devices/machines/plants, you must check to make sure that the switch-off process cannot have any hazardous moments.



CAUTION!

- ▶ Ensure that no danger to people, the environment and devices/machines/plants can arise from mounting or maintenance work.
-



CAUTION!

- ▶ Repairs to the gas damper may only be carried out by the manufacturer.
-

2 General Safety Instructions

2.4 Safety Instructions for Mounting and Maintenance

NOTICE

- ▶ When performing mounting or maintenance work on the gas damper, the applicable safety and accident prevention regulations of the employers' liability insurance association must be observed!
-

NOTICE

- ▶ Before mounting an actuator, check the gas damper for ease of movement
-

NOTICE

- ▶ Before mounting/maintenance, make sure that the safety devices are working correctly.
-



WARNING!

- ▶ After completing mounting work, check whether the settings on the drive corresponded to the mechanical position of the gas damper. This applies in particular to the end positions.
-

NOTICE

- ▶ Permissible settings for the gas damper must be carried out in accordance with the operating instructions for the gas-consuming device.
-



WARNING!

- ▶ After completion of any work on the gas damper, leak and function monitoring must be carried out.
-

3 Product Description

3.1 Important Information about the Product

The gas damper is used to adjust the volume of gas supplied to gas-consuming devices. For higher control accuracy, the gas damper can be used with reduced nominal diameter (reduced by one or two nominal diameters). This means that reducers are not needed.

The desired volumetric flow is set via the damper position with an opening angle between 0° and 90°.

The gas damper has a smooth-running damper disc without limit stop. The damper disc is also optionally available with a sealing system without limit stop for reducing the minimum volumetric flow when the damper is closed.



CAUTION!

The gas damper is not intended for safely shutting off the gas supply.

3 Product Description

3.2 Technical Data

3.2.1 Butterfly Data

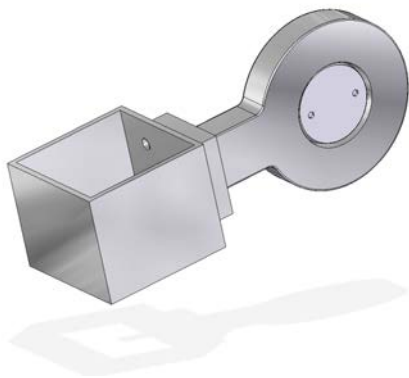


Fig. 3-1 gas damper with console

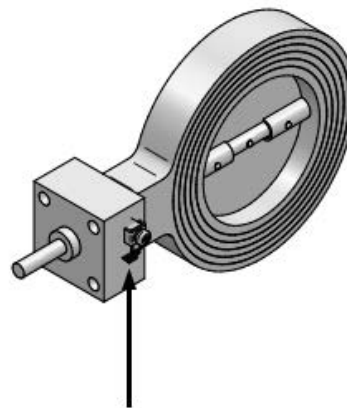


Fig. 3-2 gas damper with ground terminal for Ex application

Description	Actuator for control without zero flow, in the complete combustion technology
Test specification	type approval according to 90/396/EWG Prod. ID. No. CE-0085-AR0408 DIN 3394-1 Class R _O DIN 3391 (for medium temperature of: -20 ... +60 °C / -4 ... +140 °F)
Operating pressure	0 to 4 bar
Type of control	for electrical actuators
Mounting position	optional
Design	butterfly disc without limit-stop
Differential pressure delta P _{max.}	DN25-DN50 4 bar DN65-DN100 2 bar
Leakage rate without stop bar	1 % of K _{VS} -value 90°
Mounting	intermediate flange butterfly - clamp design
Explosion protection	the gas damper is not covered by the directive 2014/34/EU, because with the loads occurring in practice, no effective ignition source occurs even in the event of a fault. The damper must be grounded.

Gas Damper 662R25	
Housing material	grey cast iron
Material control disk / shaft	aluminium / stainless steel
Shaft seal	NBR- O-Ring

3 Product Description

Environmental Conditions

Operation	permissible temperature range	-20 ... +60 °C / -4 ... 140 °F
Storage/Transport	permissible temperature range	-20 ... +60 °C / -4 ... 140 °F

Environmental Conditions Gas Damper 662R25V

Ambient Temperature	permissible temperature range	-20 ... +60 °C / -4 ... +140 °F
Medium	gases of 1 st , 2 nd and 3 rd gas families and air	
Flow Rate	linear	

NOTICE

The gas damper is not suitable for pure hydrogen (> 98 %) or pure oxygen.

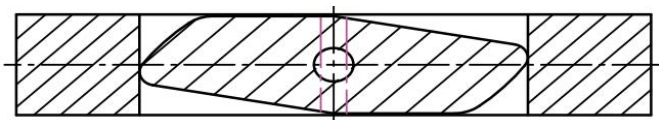


Fig. 3-3 Special butterfly disc (linear flow rate)

Suitable pressure stages:	DN25 - DN80	PN10 - PN40, ANSI 300 lbs
	DN100	PN10 - PN40, ANSI 150 lbs, 300 lbs
	DN125 - DN150	PN10 - PN16, ANSI 150 lbs, 300 lbs
	DN200	PN10 - PN16, ANSI 150 lbs
	DN250	PN10, ANSI 150 lbs
	DN300	PN6 - PN10
	DN350 - DN400	PN6 - PN16

3 Product Description

3.2.2 Gas Damper with Console and Coupling

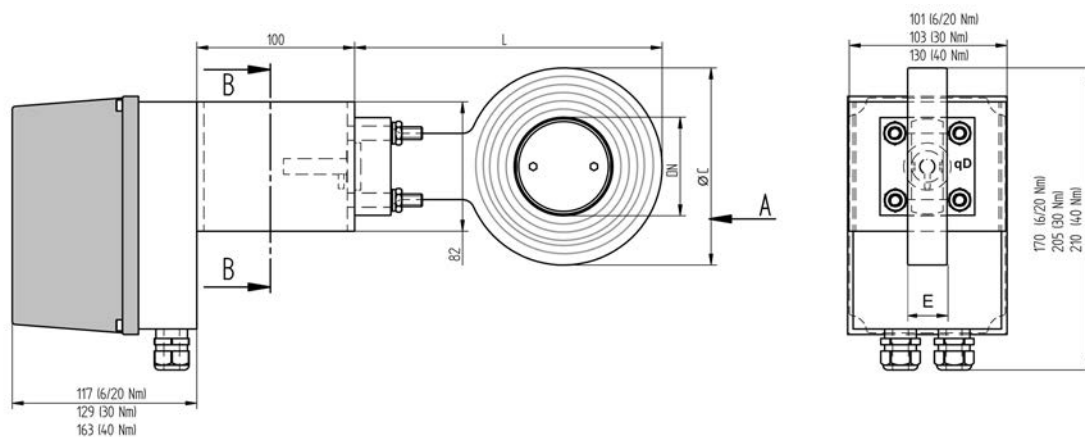


Fig. 3-4 Gas damper with console and coupling mounted on actuator controlled by ETAMATIC/FMS/VMS

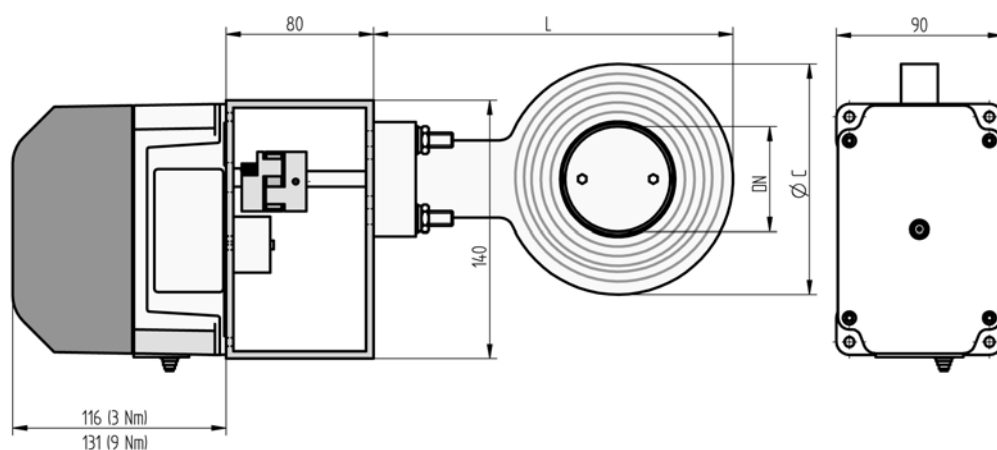


Fig. 3-5 Gas damper with console and coupling mounted on actuator controlled by BT300

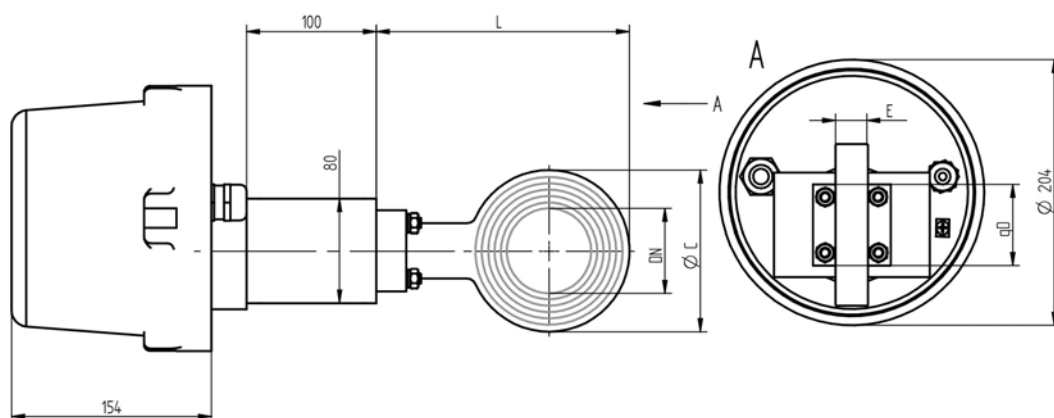


Fig. 3-6 Gas damper with console and coupling mounted on Ex-actuator controlled by ETAMATIC/FMS/VMS

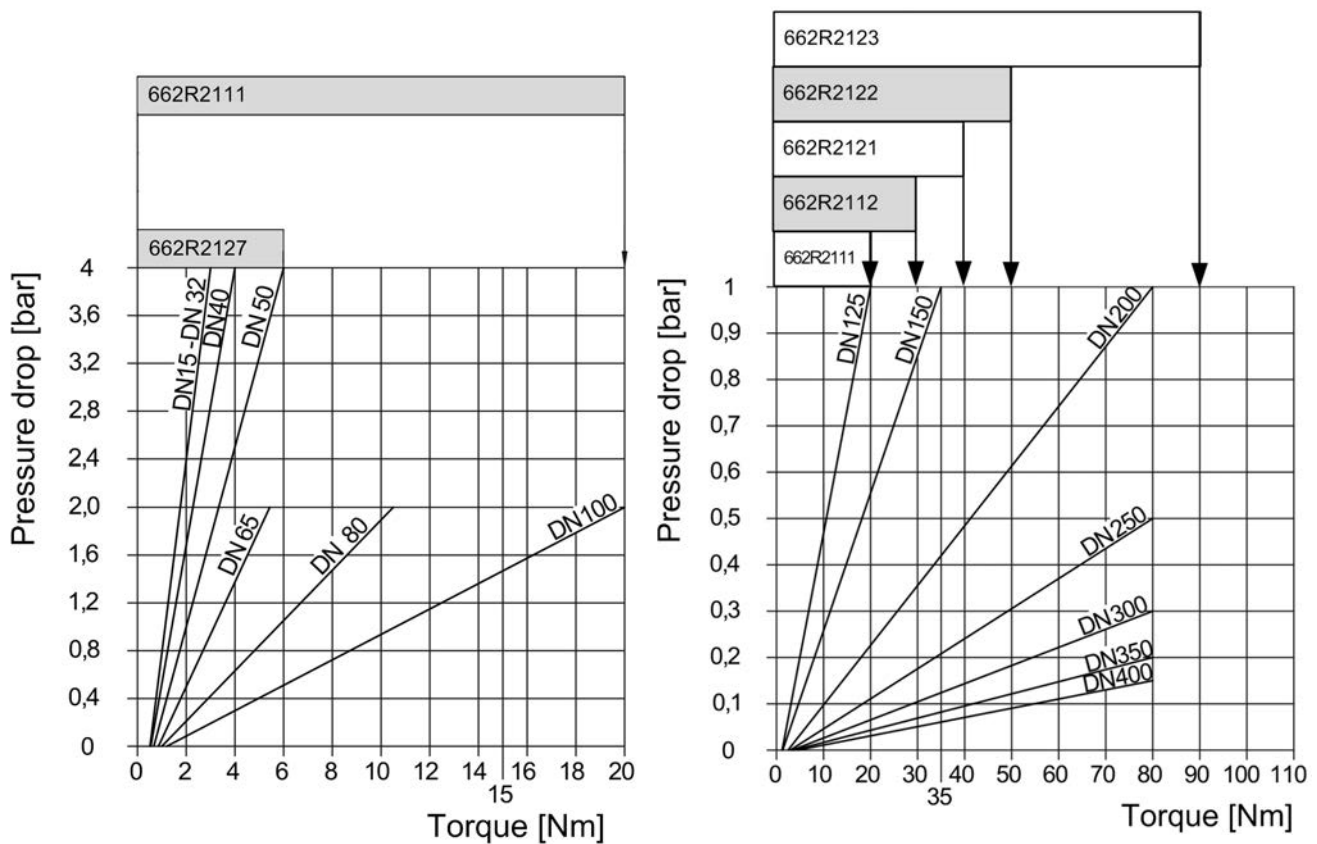
3 Product Description

Linear type special butterfly disc	DN	L	Ø C	q D	E	weight in kg
662R25V/040/000	40	166	90	60	25	3
662R25V/050/000	50	183	104	60	25	3.2
662R25V/065/000	65	195	124	60	25	3.6
662R25V/080/000	80	211	139	60	30	4.3
662R25V/100/000	100	231	161	60	30	4.9
662R25V/125/000	125	258	191	60	35	6.4
662R25V/150/000	150	283	214	60	35	7.3
662R25V/200/000	200	344	270	80	40	13.7
662R25V/250/000	250	394	320	80	40	14.7
662R25V/300/000	300	444	370	80	45	16.2
662R25V/350/000	350	523	428	80	45	29.2
662R25V/400/000	400	561	465	80	45	40.5

3 Product Description

3.2.3 Selection Electrical Servomotor

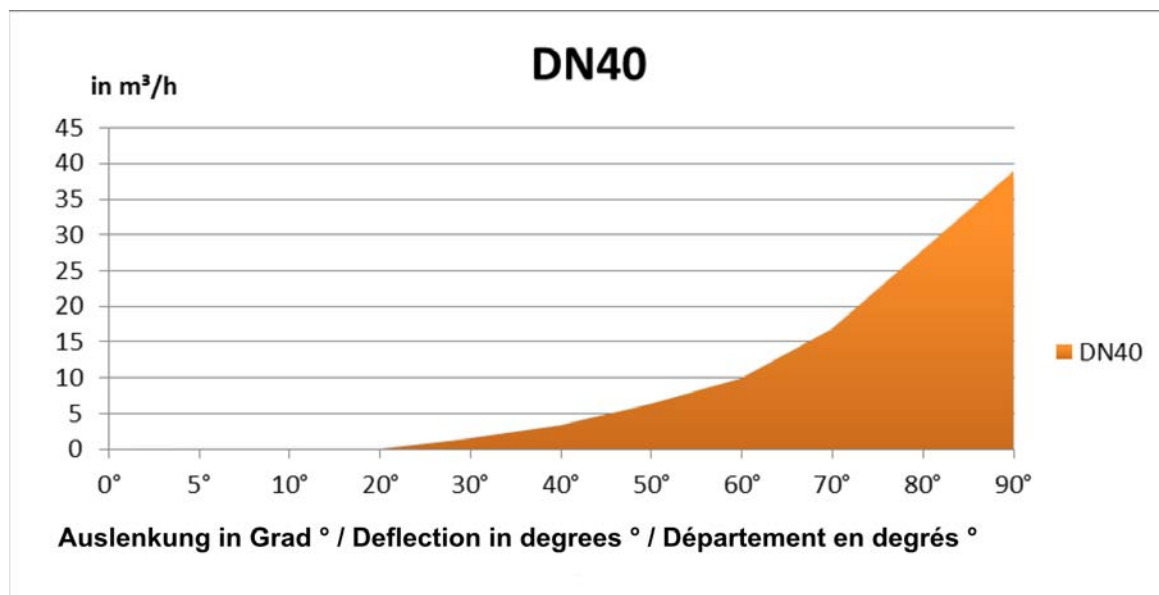
- The total torque of the butterfly valve is the results of the addition of the diagram and spindle sealing torque.
- The max. permitted differential pressure ($p_e - p_a$) must not exceed during operation. The limits can be taken from the diagram.



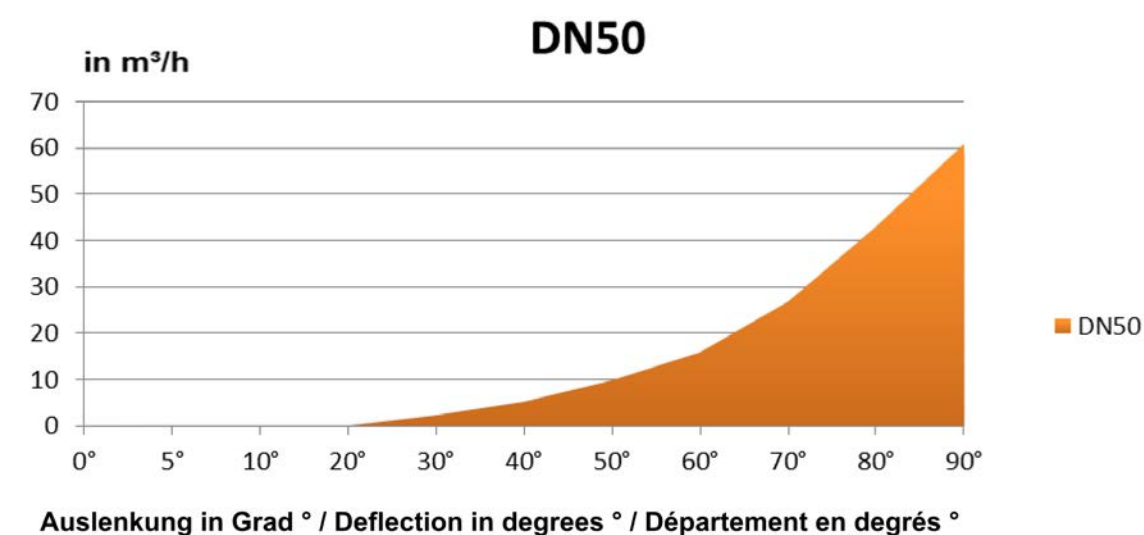
3 Product Description

3.2.4 KV-Values of Butterfly Valves

3.2.4.1 KV-Values of Butterfly Valves, with Special Butterfly Disc (linear)

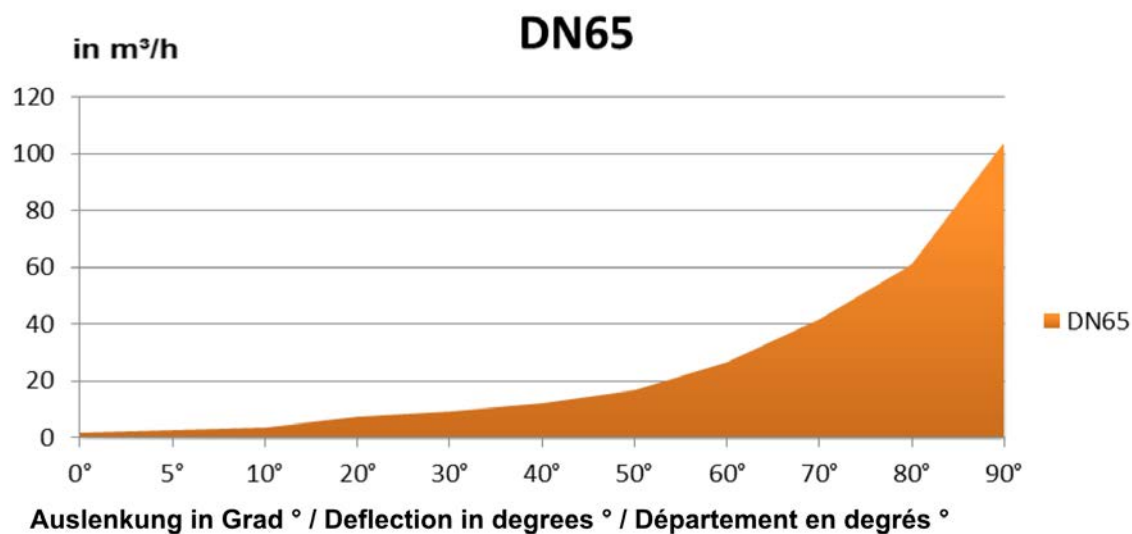


KV-Werte/Values/Valeurs										
0°	5°	10°	20°	30°	40°	50°	60°	70°	80°	90°
m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h
0,4	0,5	0,5	0,5	1,6	3,5	7	10	17	28	39

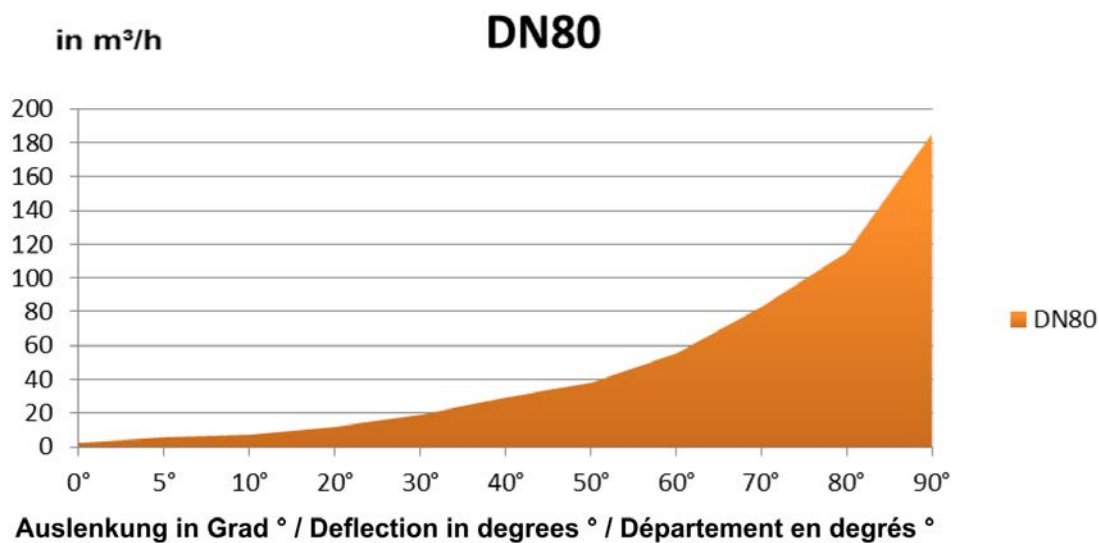


KV-Werte/Values/Valeurs										
0°	5°	10°	20°	30°	40°	50°	60°	70°	80°	90°
m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h
0,6	0,8	0,8	0,8	2,5	5,4	10	16	27	43	61

3 Product Description



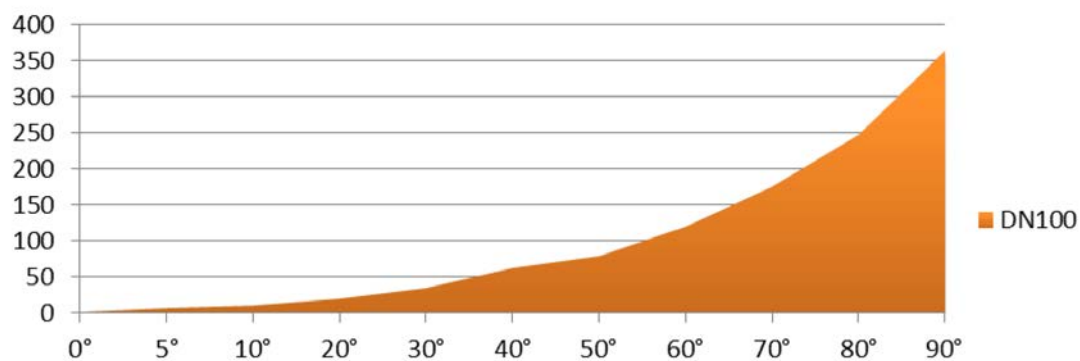
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m³/h	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h
2	2,9	3,9	7,4	9,6	12	17	27	42	61	104



KV-Werte/Values/Valeurs										
0°	5°	10°	20°	30°	40°	50°	60°	70°	80°	90°
m³/h	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h
2,2	5,7	6,6	12	19	29	38	55	83	115	185

3 Product Description

in m³/h DN100



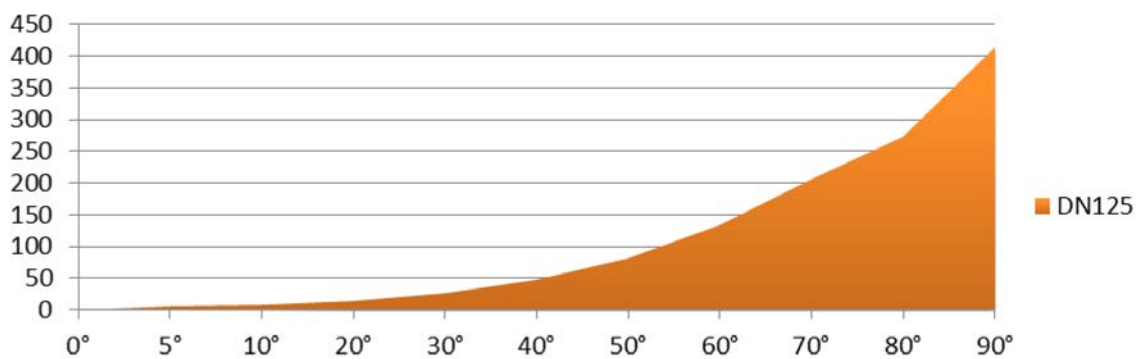
Auslenkung in Grad ° / Deflection in degrees ° / Département en degrés °

KV-Werte/Values/Valeurs

0°	5°	10°	20°	30°	40°	50°	60°	70°	80°	90°
m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h
3	5,4	9,5	18	34	62	77	118	174	246	363

DN125

in m³/h

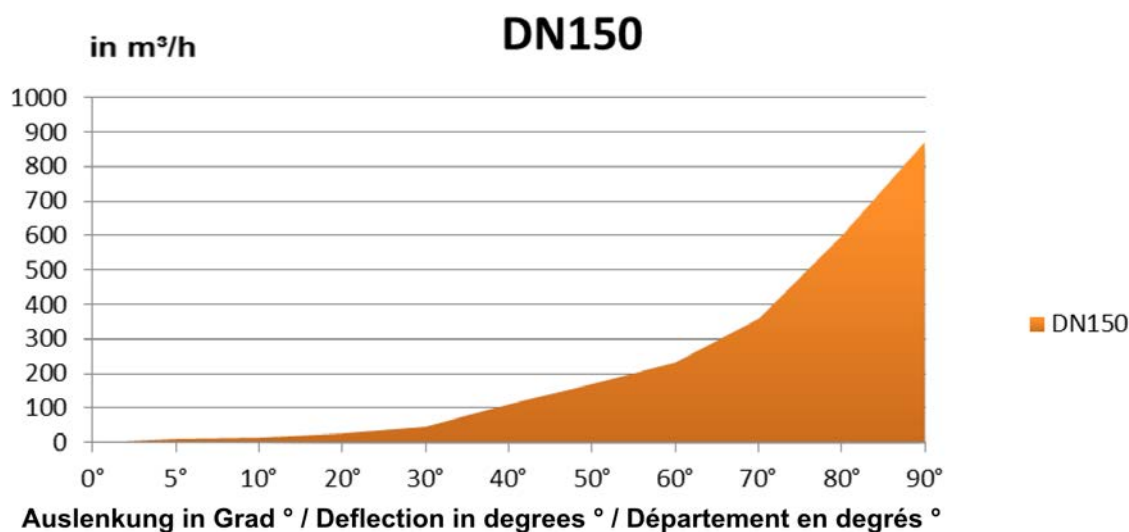


Auslenkung in Grad ° / Deflection in degrees ° / Département en degrés °

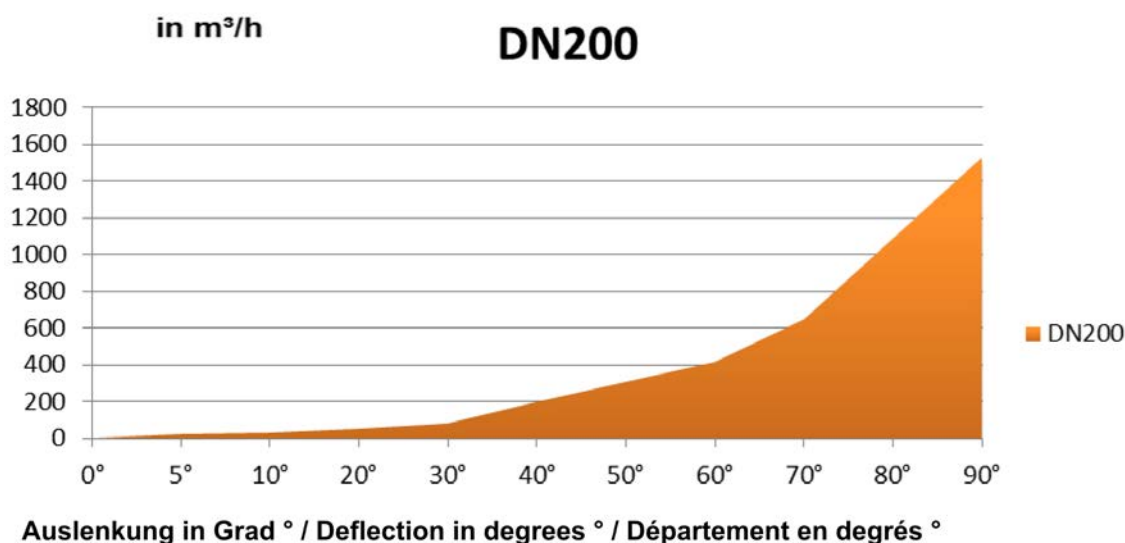
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4,4	5,6	7,2	15	27	48	82	134	206	273	414

3 Product Description



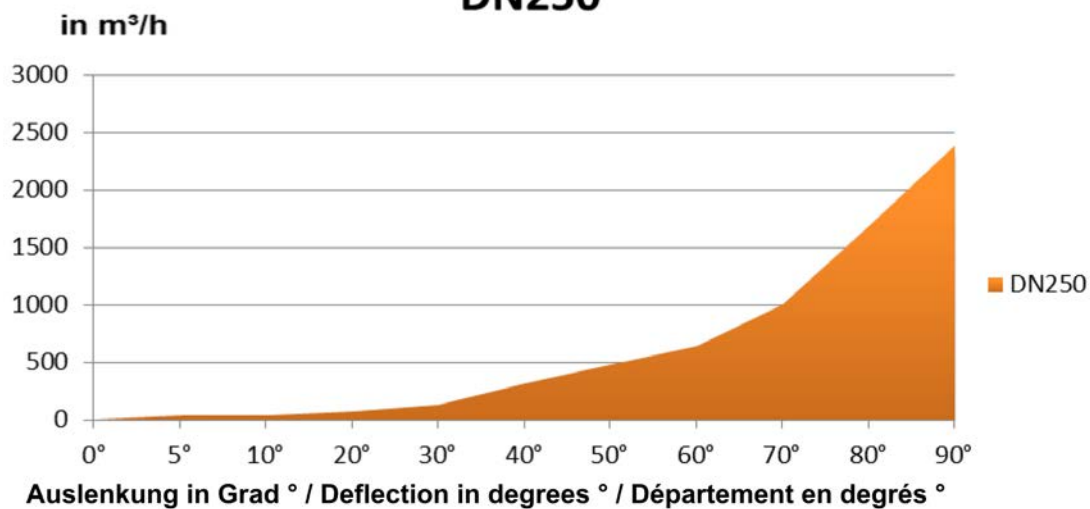
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5,2	10	14	27	46	112	170	232	362	600	872



	KV-Werte/Values/Valeurs									
0°	5°	10°	20°	30°	40°	50°	60°	70°	80°	90°
m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h
9,2	18	25	48	82	198	302	413	642	1078	1525

3 Product Description

DN250

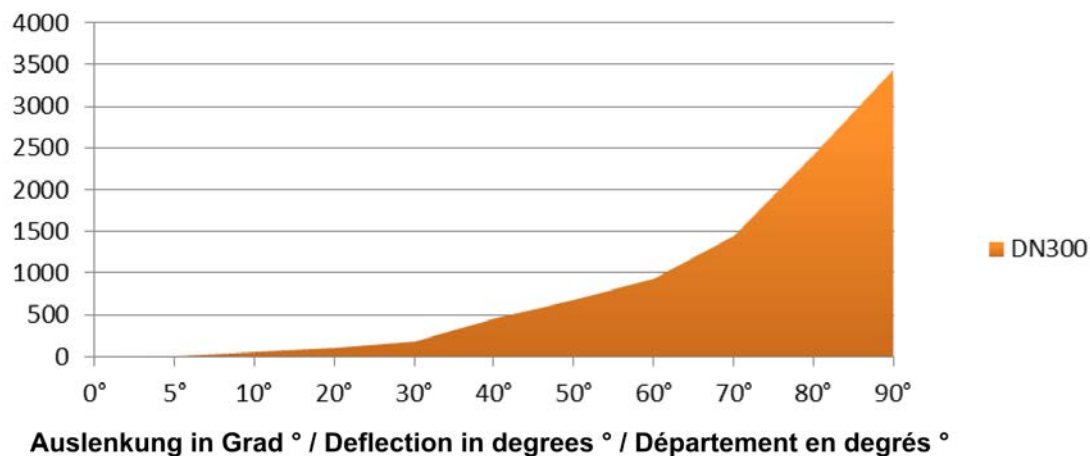


KV-Werte/Values/Valeurs

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m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h
14	29	39	74	127	310	472	645	1003	1685	2383

in m³/h

DN300

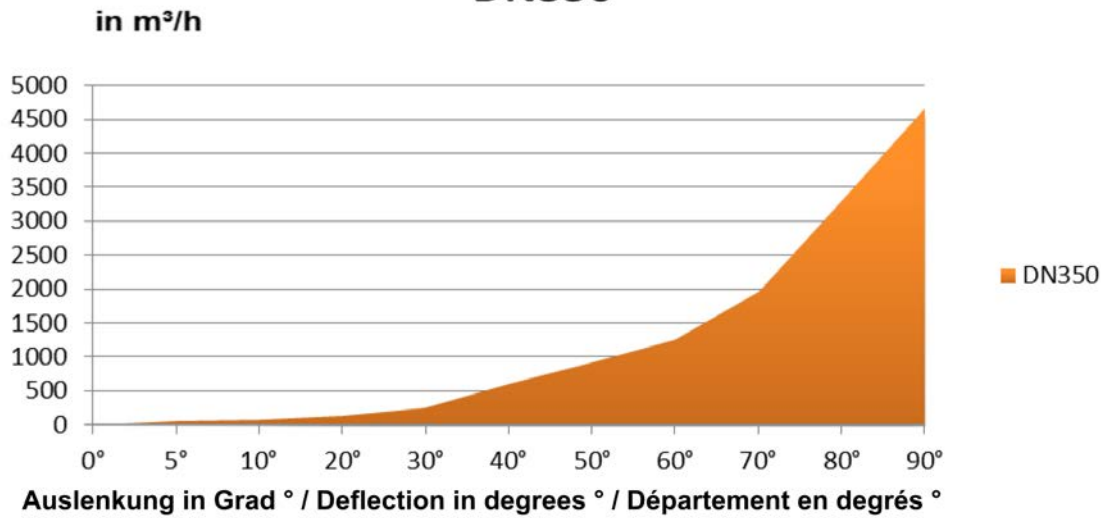


KV-Werte/Values/Valeurs

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m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h
21	41	57	107	183	446	680	929	1445	2426	3431

3 Product Description

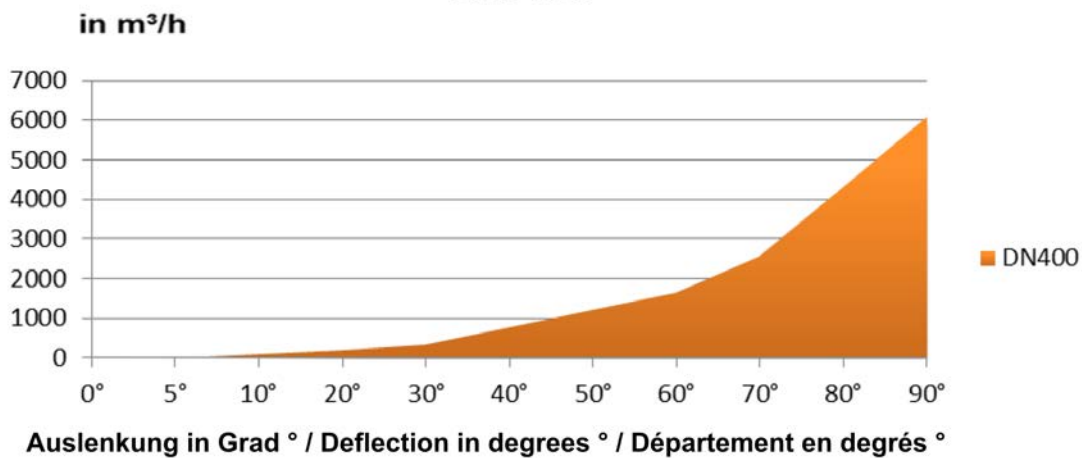
DN350



KV-Werte/Values/Valeurs

0°	5°	10°	20°	30°	40°	50°	60°	70°	80°	90°
m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h
28	56	77	145	249	608	926	1265	1967	3302	4670

DN400



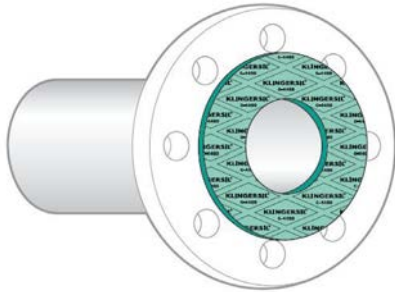
KV-Werte/Values/Valeurs

0°	5°	10°	20°	30°	40°	50°	60°	70°	80°	90°
m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h
37	73	101	190	326	794	1209	1652	2569	4313	6100

3 Product Description

3.2.5 Gasket of the Flange

Recommended flange gasket Klingsil C4400 - a universal suitable high-pressure gasket



KLINGERSIL C-4400

Aramid fibres, bounded with NBR

Resistant to oils, water, steam, gases, salt solutions, fuels, alcohols, moderate organic and inorganic acids, hydrocarbons, lubricants and refrigerants.

Fig. 3-7 Flange gasket Klingsil C-44000

Tests and certifications:

- BAM U W 28 for use with oxygen 100 °C/ 212 °F or 80 bar
- Approved for gas supply in accordance with DIN 3535/6.
- DIN-DVGW-permit NG-5123AT0251
- HTB tested, SVGW-permit, ÖVGW-permit, TÜV-Poland.
- KTW-recommended.
- Food toleration Austria, Germanischer Lloyd, BS 7531 Grade Y, TA-Luft (clean air) approval, tested in accordance with VDI2440 with 200 °C/392 °F.

Ensure all remains of old gasket materials are removed and the flanges are clean, in good condition and parallel.

The gasket materials are generally furnished with surfaces of low adhesion. In difficult installation conditions, separating agents can be used, but only in minimal quantities. Make sure, that the solvents and propellants are completely evaporated.



WARNING!

Ensure all gaskets are installed in a dry state. The use of gasket compounds is not recommended as this has a detrimental effect on the stability and load bearing characteristic of the material. Ensure gasket dimensions are correct. The gasket should not intrude into the bore of the pipework and have to be installed centrally. For safety reasons never re-use a gasket

When torquing, tighten bolts in three states to the required torque as follows:

- Finger tighten nuts
- Carry out tightening, making at least three complete diagonal tightening sequences i.e. 30 %, 60 % and 100 % of final torque value.
- In the final pass torque the bolts with 100 % of the torque value in a clockwise sequence again.

Provided that the above guidelines are followed, re-tightening of the screws is not necessary.



The information in this publication is subject to technical changes.



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