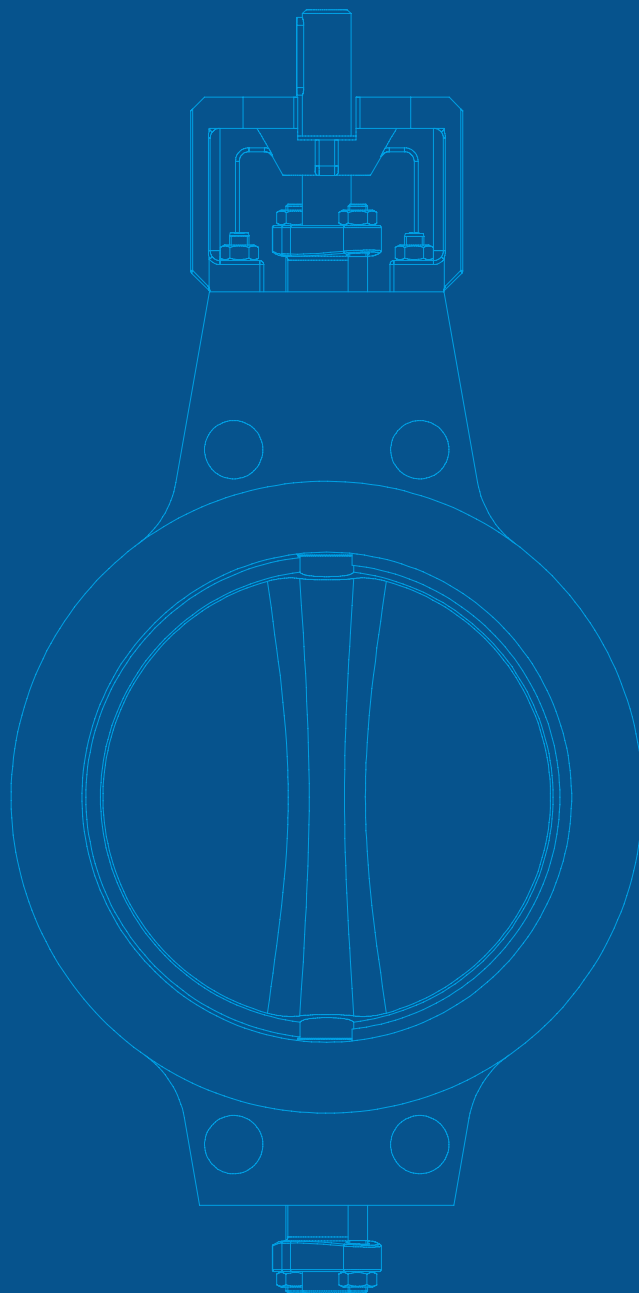


CONTROL VALVE EE/GG

Control valves with centric disc design, suitable for applications with gases and liquids of all kinds. The solidly designed components enable maintenance-free use and maximum operational reliability.

- DN 80 - DN 3600 or 3" - 144"
- PN 6 - PN 400 / Class 150 - 2500
- -196 °C – +1150 °C
- AD 2000/ASME/API
- < 0.5% Kvs 90° EE; < 0.05% Kvs 90° GG
- Leakage class in accordance with ANSI FCI 70.2 Class II-III
- On request Class IV



Fields of application:



Exhaust air
technology



Plant
engineering



Refineries



Engine test
benches



Furnace
construction



Shipbuilding

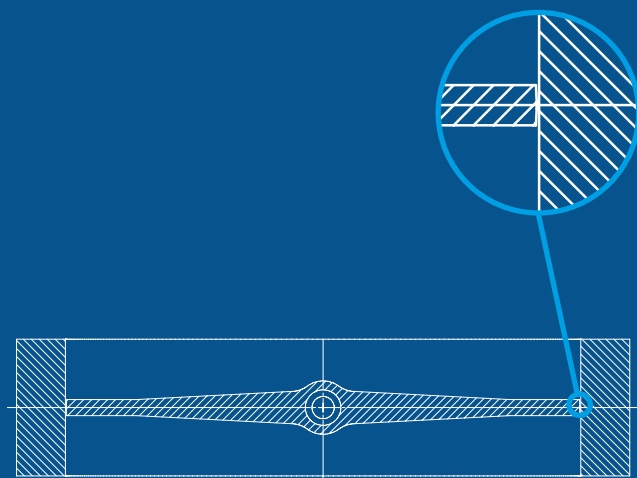


Steel industry

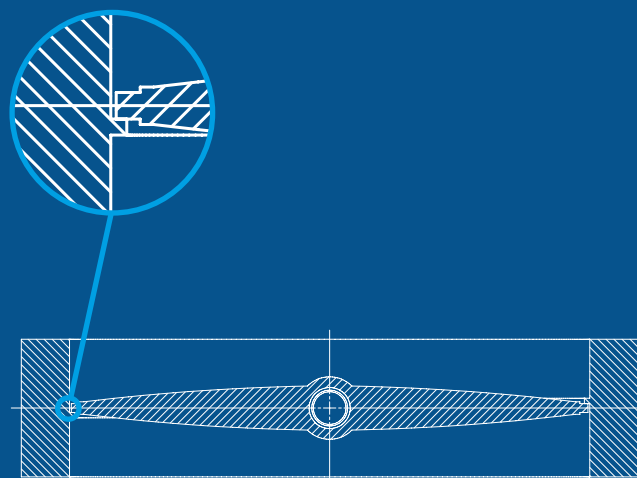


Chemical
industry

CONTROL VALVE SERIES EE/GG DESCRIPTION



- EE
Swing-through control valve
<0,5% Kvs 90°



- GG
Step-seated control valve
<0,05% Kvs 90°

- Control valve with centric disc design.
- Body cast or welded depending on material.
- The disc, made of cast or plate material, has a streamlined design and is connected to the drive shaft by means of dowel pins. The valve disc is swing-through- or step-seated depending on the tightness requirement.
- The zero position in the closed position is adjusted and limited by a stop in the actuator. Depending on the application conditions, the opening angle of the disc can be selected up to 90°. For control valves, the opening angle is ideally 60°-70°, taking into account the opening characteristic and the dynamic torques.
- In the standard version, the shaft is a two-piece stub shaft. The power transmission of the actuator to the shaft is done with a feather key. For higher pressures, a continuous shaft with a suitable shaft-hub connection is also possible.
- The shaft bearings are maintenance-free, internal plain bearings. The materials are adapted to the operating conditions and the material of the shaft. An additional bracket supports the forces of the actuator, the associated bearing block is the connection point between the control valve and the actuator. On request, an bracket on both sides can be used for dirty media/high temperatures without an internal bearing.
- The shaft passage from the medium chamber to the atmosphere is sealed by an adjustable packing whose material is adapted to the operating conditions. Sealing in accordance with TA-Luft available. Special designs for additional packing lubrication as well as for sealing gas or intermediate suction and bearing flushing are available.
- Actuator adaptation in accordance with DIN/ISO 5211.

CONTROL VALVE EE/GG DESCRIPTION

The EE/GG valve types can be modified for many special requirements:

- Version with heating jacket.
- High or low temperature version -196°C to +1150°C.
- High pressure version up to PN 400 or Class 2500.
- Special material e.g. bronze, aluminium, titanium, Hastelloy, Monel or high temperature materials.
- Special face-to-face dimensions, face-to-face works standard, or in accordance with customer specifications.
- Control inserts for high differential pressures, perforated plates as well as various resistance structures for noise reduction.

Wafer design
EEA/EED SERIES



Wafer design
GGA/GGD SERIES



Lug type design
EEF SERIES



Lug type design
GGF SERIES

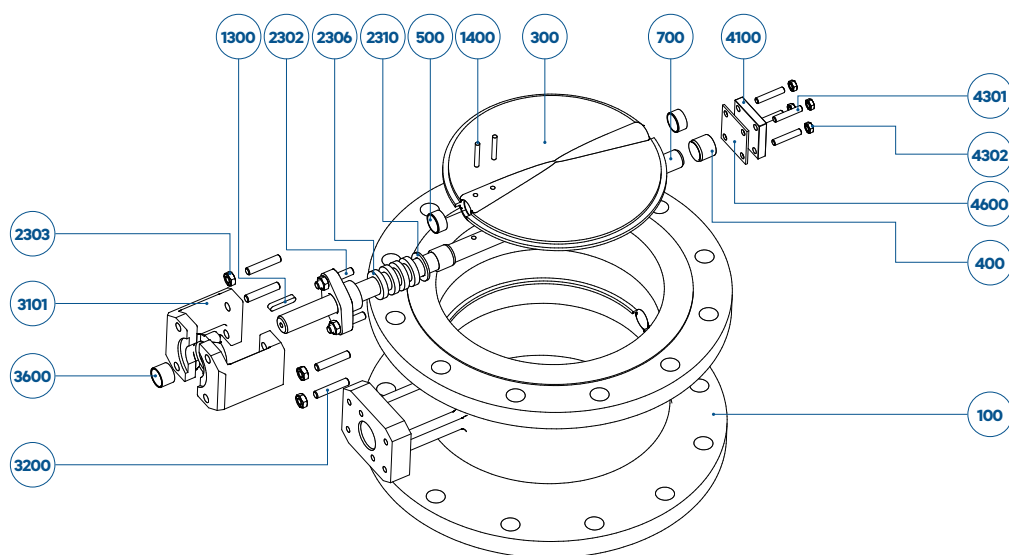


Double flange design
EEL/GGL SERIES



CONTROL VALVE SERIES EE/GG

PARTS LIST



PARTS LIST IN ACCORDANCE WITH EN/ASME CONTROL VALVE EE/GG			
Position	Item Description	Material stainless steel	Material carbon steel
100	Body	A351 CF8M / 1.4404	A216 WCB / 1.0425
300	Throttle disc	A351 CF8M / 1.4404	A216 WCB / 1.0619
400	Liner	316Ti nit. / 1.4571 nit.	316Ti nit. / 1.4571 nit.
500	Bushing	316Ti nit. / 1.4571 nit.	316Ti nit. / 1.4571 nit.
700	Drive shaft	316Ti/1.4571	316Ti / 1.4571
1300	Feather key	C45K	C45K
1400	Cylindrical pin	316Ti/nit./1.4571/nit.	316Ti nit. / 1.4571 nit.
2301	Packing gland	316Ti / 1.4581	A516 Gr.60 / 1.4571
2302	Stud bolt	A193 Gr. B8 / A2-70	A193 Gr. B8 / A2-70
2303	Hexagon nut	A193 Gr. B8 / A2-70	A193 Gr. B8 / A2-70
2306	Packing ring	Graphit / PTFE	Graphit / PTFE
2310	Ring	316Ti/1.4571	316Ti / 1.4571
3101	Bracket	A351 CF8M / 1.4404	316Ti / 0.7040
3200	Stud bolt	A193 Gr. B8 / A2-70	ASTM A193 Gr. B8 / A2-70
3600	Bushing	PTFE / bronze	PTFE / bronze
4100	Cover	316Ti / 1.4571	316Ti / 1.4571
4301	Stud bolt	A193 Gr.8B / A2-70	A193 Gr.8B / A2-70
4302	Hexagon nut	A193 Gr.8B / A2-70	A193 Gr.8B / A2-70
4600	Flat seal	Graphite	Graphite

CONTROL VALVE SERIES EE/GG

TECHNICAL INFORMATION

- 0,05 - 0,5 % of Kvs value at 90° opening
- Leakage class in accordance with ANSI FCI 70.2 Class II-III
- On request Class IV

MATERIALS						
	Temperature limit					
	up to 450° C		up to 540° C		up to 1000° C	
	acc. to EN	acc. to ASME	acc. to EN	acc. to ASME	acc. to EN	acc. to ASME
Body	EN 1.0425/1.0619	A216WCB/A516 Gr. 60	EN 1.7335 /1.7357	A182 Gr.F12 / A217 WC6	EN 1.4841/1.4840	AISI 314/A351 CK20
Disc	EN 1.0425/1.0619	A216WCB/A516 Gr. 60	EN 1.7335 /1.7357	A182 Gr.F12 / A217 WC6	EN 1.4841/1.4840	AISI 314/A351 CK20
Shaft	EN 1.4571	316 Ti	EN 1.4571	316 Ti	EN 1.4841	AISI 314
Bearing	Stellite	Stellite	Stellite	Stellite	without internal bearing	without internal bearing

Note: Other materials on request.

MATERIALS						
	Special steel					
	High alloy / acid resistant		Corrosion resistant		Chemical resistance	
	acc. to EN	acc. to ASME	acc. to EN	acc. to ASME		
Body	EN 1.4571/1.4581	316 Ti /A351 CF3M	EN 1.4462 Duplex	A182 F51	EN 1.4539	254 SMO
Disc	EN 1.4571/1.4581	316 Ti /A351 CF3M	EN 1.4462 Duplex	A182 F51	EN1.4539	254 SMO
Shaft	EN 1.4571	316Ti	EN 1.4462 Duplex	A182 F51	EN1.4539	254 SMO
Bearing	Stellite	Stellite	Stellite	Stellite	Stellite	Stellite

Note: Other special materials on request

REDUCTION FACTORS FOR DETERMINING THE PERMISSIBLE DIFFERENTIAL PRESSURE AT INCREASED TEMPERATURES										
	100	150	200	250	300	350	400	450	500	550
Body										
Valve disc	0.93	0.91	0.89	0.85	0.81	0.74	0.68	-	-	-
Shaft	0.86	0.8	0.75	0.7	0.66	0.64	0.61	0.6	0.59	0.58

Note: Subject to technical changes

CONTROL VALVE SERIES EE/GG

TECHNICAL INFORMATION

Nominal size	Class 3			Class 4			Class 5		
	Shaft	1.4057	1.4571	Shaft	1.4057	1.4571	Shaft	1.4057	1.4571
		DP	DP		DP	DP		DP	DP
mm	mm	bar	bar	mm	bar	bar	mm	bar	bar
100	15	25	14	20	50	25	25	100	40
125	15	25	8	20	40	14	25	50	22
150	15	16	6	20	30	10	25	40	14
200	20	16	6	25	25	8	35	40	16
250	20	10	4	25	15	5	35	30	10
300	20	6	3	25	10	4	35	20	6
350	20	5	2	25	8	3	35	16	5
400	25	5	2	30	8	3	40	16	5
450	25	4	2	30	6	2,5	40	12	4
500	25	3	1,5	30	5	2,5	40	10	3
600	30	3	1,5	40	5	2,5	50	10	3
700	40	3	1,5	50	5	2,5	60	10	3
800	40	3	1,5	50	5	2	60	8	2,5
900	40	3	1	50	4	1,5	60	6	2
1000	50	3	1	60	4	1,5	70	6	2
1100	50	2,5	1	60	4	1,5	70	6	2
1200	50	2,5	1	60	3	1,5	70	5	2
1300	50	2	0,75	60	3	1	70	4	1,5
1400	50	1,5	0,75	60	2,5	1	70	3,5	1,5
1500	60	1,5	0,75	70	2,5	1	80	3,5	1,5
1600	60	1,5	0,75	70	2,5	1	80	3,5	1,5
1800	60	1,5	0,5	70	2,5	0,75	80	3	1
2000	70	1,5	0,5	80	2,5	0,75	90	3	1

Note: Other differential pressures on request

CONTROL VALVE SERIES EE/GG

A TAILOR-MADE SOLUTION FOR ALL OPERATING CONDITIONS

→ Heating jacket for resinous
or caking media



→ High-temperature version with
extended bracket



→ High pressure valve class 2500
→ PN 400' with welding ends



CONTROL VALVE SERIES EE/GG

A TAILOR-MADE SOLUTION FOR ALL OPERATING CONDITIONS

→ **Low-temperature version with
extended bracket**



→ **Noise reduction solution**
→ **Anti-cavitation**

