

High Temperature Valve 8053

GS 3 series, 1/2" up to 8"

Pneumatic manual control valve for the control of neutral through to highly aggressive media in process engineering, chemical industries and for plant equipment.

- Space-saving wafer-type design
- Lowest possible weight
- Quiet operation
- Precise control by hand
- Control of high differential pressures
- High Kvs-values



Technical Information

Body design	ANSI flange wafer (self-aligning)		
Nominal sizes	1/2" up to 8"		
Nominal pressure acc. DIN 2401	580 psi (fits also to 145-365psi)	1/2" - 6"	
	1450 psi	1/2" - 3"	
	235 psi	8"	
Nominal pressure acc. ANSI	ANSI 150	1/w2" - 8"	
	ANSI 300	1/2" - 6"	
	ANSI 600	1/2" - 3"	
Media temperature	-76°F up to +842°F for function unit carbon-stainless steel -76°F up to +842°F for function unit STN2 -76°F up to +572°F for function unit SFC up to +986°F with bellows from Inconel 625 and function unit STN2		
Leakage % of Kvs IEC 60534-4 EN 12266-1	Disc pair Carbon-stainless steel	Disc pair SFC	Disc pair STN 2
	< 0,0001	< 0,0005	< 0,001
	IV-S1 E	IV-S1 F	IV F
Marking ATEX non electric	II 2G Ex h IIC T6...T1 X Gb		
	II 2D Ex h IIIC 85°C...530°C X Db		
Specific leakage rate shaft and body sealing	ISO FE-BH-CC3-SSA0-t(-40°C/+350°C)-PN40-ISO 15848-1		

* With DN15 with reduction of less than 25%, different leakage rates possible.
K_{vs}-values see data sheet 8001.

Fluid temperature

Rating	PN40	PN 16	PN 100	ANSI 150	ANSI 300	ANSI 600
Body material cpl. stainless steel						
Tmin [°F]	-76	-76	-76	-20	-20	-20
Tmax [°F]	986	986	986	986	986	986
Body material cpl. carbon steel						
Tmin [°F]	-76	-76	14	-4	-4	14
Tmax [°F]	986	986	986	986	986	986

manual control valve

Operation limits for GS3-valves from stainless steel

These pressures on stainless steel GS-valves series GS3 must not be exceeded even if the actuator thrust would allow it. Operation Limits for bodys made of carbon steel on request.

ANSI150

Size	Sliding unit: carbon/SFC - stainless steel, coated									
	max. admissible pressures for GS3-valves in stainless steel									
	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F	750°F	840°F
1/2" - 5"	275	265	235	215	200	175	150	120	95	65
6"	230	230	230	215	200	175	150	120	95	65
8"	230	230	230	215	200	175	150	120	95	65
10"	150	150	150	145	135	120	105	100	90	65

Size	Sliding unit: STN2											
	max. admissible pressures for GS3-valves in stainless steel											
	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F	750°F	840°F	930°F	990°F
1/2" - 5"	275	265	235	215	200	175	150	120	95	65	30	-
6"	235	235	235	215	200	170	140	120	95	65	30	-
8"	-	-	-	-	-	-	-	-	-	-	-	-
10"	-	-	-	-	-	-	-	-	-	-	-	-

Limitation for SFC-sliding discs: 570°F

ANSI300

Size	Sliding unit: carbon/SFC - stainless steel, coated									
	max. admissible pressures for GS3-valves in stainless steel									
	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F	750°F	840°F
1/2"-2 1/2"	720	695	610	560	520	485	460	440	425	420
3"	695	695	610	560	520	485	460	440	425	420
4"	480	480	480	480	480	480	460	440	425	420
5"	335	335	335	335	335	335	335	335	335	335
6"	230	230	230	230	230	230	230	230	230	230

Size	Sliding unit: STN2											
	max. admissible pressures for GS3-valves in stainless steel											
	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F	750°F	840°F	930°F	990°F
1/2"	720	695	610	560	520	485	460	440	425	420	400	375
3/4"	720	695	610	560	520	485	460	440	425	420	400	375
1"	720	695	610	560	520	485	460	440	425	420	385	315
1 1/4"	720	695	610	560	520	485	460	440	425	420	400	360
1 1/2"	720	695	610	560	520	485	460	440	425	420	385	315
2"	720	695	610	560	520	485	460	440	425	420	400	375
2 1/2"	720	695	610	560	520	485	460	440	410	365	330	315
3"	530	530	530	505	480	390	320	275	240	215	195	180
4"	480	480	480	460	435	355	290	250	220	195	175	165
5"	320	320	320	305	290	235	190	165	145	130	115	110
6"	230	230	230	225	210	170	140	120	105	95	85	80

Limitation for SFC-sliding discs: 570°F

ANSI600

Size	Sliding unit: carbon/SFC - stainless steel, coated									
	max. admissible pressures for GS3-valves in stainless steel									
	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F	750°F	840°F
1/2"	1440	1395	1225	1115	1035	970	915	880	865	810
3/4"	1440	1395	1225	1115	1035	970	915	880	865	700
1"	1275	1275	1225	1115	1015	925	830	785	740	550
1 1/4"	1440	1395	1225	1115	1035	970	915	880	850	630
1 1/2"	1275	1275	1225	1115	1015	925	830	785	740	550
2"	1440	1395	1225	1115	1035	970	915	880	865	835
2 1/2"	1160	1160	1160	1115	1035	970	915	880	865	690
3"	695	695	695	695	695	695	695	645	595	515

Size	Sliding unit: STN2											
	max. admissible pressures for GS3-valves in stainless steel											
	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F	750°F	840°F	930°F	990°F
1/2"	1440	1395	1225	1115	1035	970	915	880	865	810	565	460
3/4"	1440	1395	1225	1115	1035	970	915	880	865	700	490	400
1"	1275	1275	1225	1115	1015	925	830	785	740	550	385	315
1 1/4"	1440	1395	1225	1115	1035	970	915	875	765	630	440	360
1 1/2"	1050	1050	1050	1000	950	770	630	545	475	425	385	315
2"	1125	1125	1125	1070	1020	825	675	585	510	455	410	390
2 1/2"	905	905	605	865	820	665	545	470	410	365	330	315
3"	530	530	530	505	480	390	320	275	240	215	195	185

Limitation for SFC-sliding discs: 570°F

High Temperature Valve 8053-GS3



manual control valve

PN40

Size	Sliding unit: carbon/SFC - stainless steel, coated							
	maximum pressures for GS3-valves in stainless steel (psi)							
	210°F	300°F	390°F	480°F	570°F	660°F	750°F	840°F
1/2"	580	580	580	580	580	580	580	580
3/4"	580	580	580	580	580	580	580	580
1"	580	580	580	580	580	580	580	550
1/2" - 1 1/4"	580	580	580	580	580	580	580	580
1 1/2"	580	580	580	580	580	580	580	550
2"	580	580	580	580	580	580	580	580
2 1/2"	580	580	580	580	580	580	580	580
3"	580	580	580	580	580	580	580	505
4"	475	475	475	475	475	475	475	475
5"	475	475	475	475	475	475	475	475
6"	230	230	230	230	230	230	230	230
8" (only 235psi)	230	230	220	190	175	160	145	130
10" (only 235psi)	145	130	130	115	100	85	85	70

Size	Sliding unit: STN2									
	maximum pressures for GS3-valves in stainless steel (psi)									
	210°F	300°F	390°F	480°F	570°F	660°F	750°F	840°F	930°F	990°F
1/2"	580	580	580	580	580	580	580	580	565	450
3/4"	580	580	580	580	580	580	580	580	480	390
1"	580	580	580	580	580	580	580	550	375	305
1/2" - 1 1/4"	580	580	580	580	580	580	580	580	435	350
1 1/2"	580	580	580	580	580	535	465	420	375	305
2"	580	580	580	580	580	580	510	450	405	375
2 1/2"	580	580	580	580	535	465	405	365	320	305
3"	520	495	480	375	320	275	230	205	190	175
4"	465	450	435	350	290	245	220	190	175	160
5"	305	305	275	230	190	160	145	115	115	100
6"	220	220	205	160	130	115	100	85	75	75
8" (only 235psi)	-	-	-	-	-	-	-	-	-	-
10" (only 235psi)	-	-	-	-	-	-	-	-	-	-

Limitation for SFC-sliding discs: 570°F

PN100

Size	Sliding unit: carbon/SFC - stainless steel, coated							
	maximum pressures for GS3-valves in stainless steel (psi)							
	210°F	300°F	390°F	480°F	570°F	660°F	750°F	840°F
1/2"	1450	1450	1450	1350	1220	1145	1075	800
3/4"	1450	1450	1290	1175	1060	985	930	695
1"	1275	1175	1015	915	825	785	740	550
1 1/4"	1450	1350	1160	1060	945	900	840	625
1 1/2"	1275	1175	1015	915	825	785	740	550
2"	1450	1450	1450	1450	1450	1365	1260	1100
2 1/2"	1160	1160	1160	1145	1030	970	915	680
3"	695	695	695	695	695	640	595	510

Size	Sliding unit: STN2									
	maximum pressures for GS3-valves in stainless steel (psi)									
	210°F	300°F	390°F	480°F	570°F	660°F	750°F	840°F	930°F	990°F
1/2"	1450	1450	1450	1350	1220	1145	1075	800	565	450
3/4"	1450	1450	1290	1175	1060	985	930	695	480	390
1"	1275	1175	1015	915	825	785	740	550	375	305
1 1/4"	1450	1350	1160	1060	945	870	755	625	435	350
1 1/2"	1045	1000	945	770	625	535	465	420	375	305
2"	1115	1060	1015	810	665	580	510	450	405	375
2 1/2"	900	855	810	655	535	465	405	365	320	305
3"	520	495	480	375	320	275	230	205	190	175

Limitation for SFC-sliding discs: 570°F

manual control valve

Application limitations for GS3 valves in carbon steel

These pressure must not be exceeded for GS-valves from the GS3-series made of carbon steel, even though the actuator power might allow it.

ANSI150

Size	Sliding unit: carbon/SFC - stainless steel, coated								Sliding unit: STN2							
	max. admissible pressures for GS3-valves in carbon steel								max. admissible pressures for GS3-valves in carbon steel							
	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F
1/2"-5"	285	280	255	230	200	175	150	120	285	280	255	230	200	175	150	120
6"	230	230	230	230	200	175	150	120	235	235	235	225	200	170	140	115
8"	230	230	230	230	200	175	150	120	-	-	-	-	-	-	-	-
10"	150	150	150	145	135	120	105	87	-	-	-	-	-	-	-	-

Limitation for SFC-sliding discs: 570°F

ANSI300

Size	Sliding unit: carbon/SFC - stainless steel, coated								Sliding unit: STN2							
	max. admissible pressures for GS3-valves in carbon steel								max. admissible pressures for GS3-valves in carbon steel							
	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F
1/2"-2"	740	725	675	655	635	610	565	535	740	725	675	655	635	610	565	535
2 1/4"	740	725	675	655	635	610	565	535	605	605	605	575	545	485	550	470
3"	695	695	675	655	635	610	565	535	530	530	530	505	480	390	319	275
4"	480	480	480	480	480	480	475	475	480	480	480	460	435	355	290	245
5"	335	335	335	335	335	335	330	330	320	320	320	305	290	235	191	155
6"	230	230	230	230	230	230	230	230	230	230	230	225	210	170	141	115

Limitation for SFC-sliding discs: 570°F

ANSI600

Size	Sliding unit: carbon/SFC - stainless steel, coated								Sliding unit: STN2							
	max. admissible pressures for GS3-valves in carbon steel								max. admissible pressures for GS3-valves in carbon steel							
	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F
1/2"-1"	1480	1455	1350	1310	1270	1215	1155	1085	1480	1455	1350	1310	1270	1215	1155	1085
1 1/4"	1480	1455	1350	1310	1270	1215	1155	1085	1480	1455	1350	1310	1270	1215	1010	870
1 1/2"	1450	1450	1350	1310	1270	1215	1155	1085	1050	1050	1050	1000	950	770	630	535
2"	1450	1450	1350	1310	1270	1215	1155	1085	1125	1125	1125	1070	1020	825	675	580
2 1/2"	1160	1160	1160	1160	1160	1160	1155	1085	905	905	905	865	820	665	545	460
3"	695	695	695	695	695	695	695	635	530	530	530	535	480	390	320	275

Limitation for SFC-sliding discs: 570°F

High Temperature Valve 8053-GS3



manual control valve

PN40

Size	Sliding unit: carbon/SFC - stainless steel, coated							
	max. admissible pressures for GS3-valves in carbon steel							
	210°F	300°F	390°F	480°F	570°F	660°F	750°F	840°F
1/2"-1 1/4"	580	580	580	580	580	580	580	580
1 1/2"	580	580	580	580	580	580	580	580
2"	580	580	580	580	580	580	580	580
2 1/2"	580	580	580	580	580	580	580	580
3"	580	580	580	580	580	580	580	550
4"	480	480	480	480	480	475	475	475
5"	335	335	335	335	335	330	330	330
6"	230	230	230	230	230	230	230	230
8" (only 235 psi)	230	230	220	190	175	155	145	140
10" (only 235 psi)	145	130	130	115	100	85	85	75

Size	Sliding unit: STN2							
	max. admissible pressures for GS3-valves in carbon steel							
	210°F	300°F	390°F	480°F	570°F	660°F	750°F	840°F
1/2"-1 1/4"	580	580	580	580	580	580	580	580
1 1/2"	580	580	580	580	580	580	460	420
2"	580	580	580	580	580	580	505	450
2 1/2"	580	580	580	580	535	460	405	360
3"	520	495	480	375	320	275	230	200
4"	480	450	435	350	290	245	215	190
5"	320	305	275	230	190	155	145	115
6"	230	220	205	160	130	115	100	85
8" (only 235 psi)	-	-	-	-	-	-	-	-
10" (only 235 psi)	-	-	-	-	-	-	-	-

Limitation for SFC-sliding discs: 570°F

PN100

Size	Sliding unit: carbon/SFC - stainless steel, coated							
	max. admissible pressures for GS3-valves in carbon steel							
	210°F	300°F	390°F	480°F	570°F	660°F	750°F	840°F
1/2"	1450	1450	1450	1450	1450	1450	1350	1030
3/4"	1450	1450	1450	1450	1450	1450	1450	1160
1"	1450	1450	1450	1450	1365	1260	1170	900
1 1/4"	1450	1450	1450	1450	1450	1435	1350	1040
1 1/2"	1450	1450	1450	1450	1365	1260	1170	910
2"	1450	1450	1450	1450	1450	1360	1260	1175
2 1/2"	1160	1160	1160	1160	1160	1100	1010	940
3"	695	695	695	695	695	635	595	550

Size	Sliding unit: STN2							
	max. admissible pressures for GS3-valves in carbon steel							
	210°F	300°F	390°F	480°F	570°F	660°F	750°F	840°F
1/2"	1450	1450	1450	1450	1450	1450	1350	1030
3/4"	1450	1450	1450	1450	1450	1450	1450	1160
1"	1450	1450	1450	1450	1365	1260	1100	900
1 1/4"	1450	1450	1450	1220	1000	870	750	665
1 1/2"	1045	1000	945	770	625	535	460	420
2"	1115	1060	1015	810	665	580	505	450
2 1/2"	900	855	810	655	535	460	405	360
3"	520	495	480	375	320	275	230	200

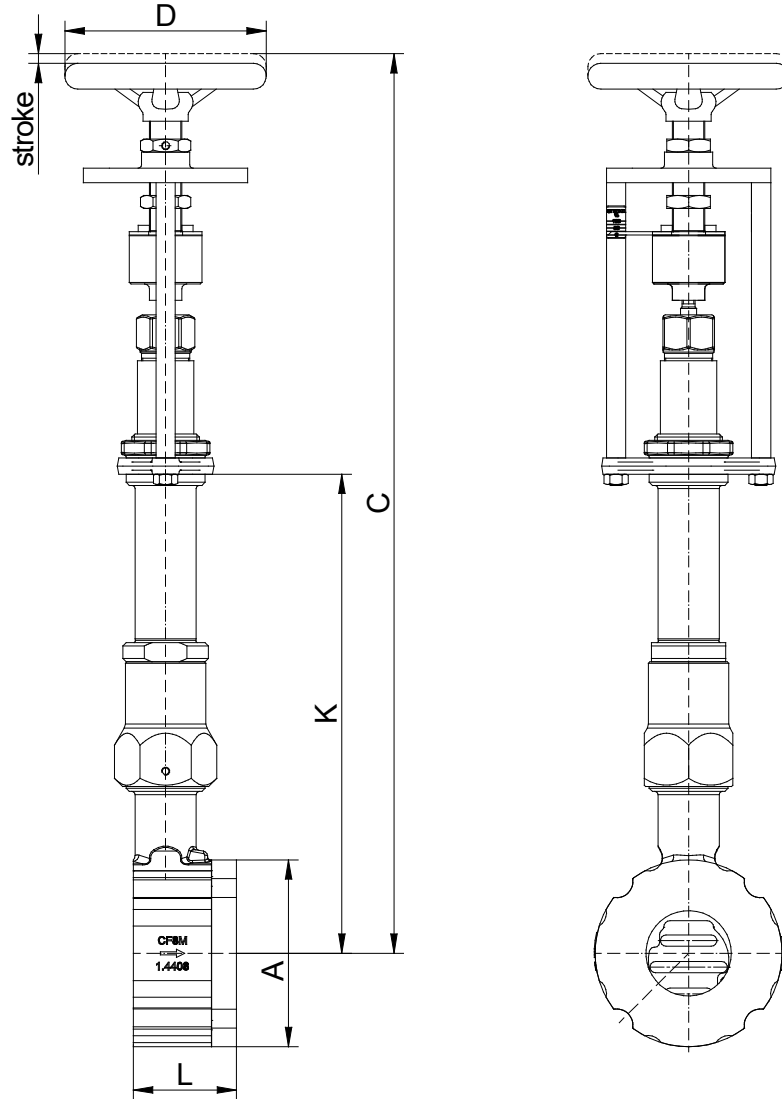
Limitation for SFC-sliding discs: 570°F

High Temperature Valve 8053-GS3



manual control valve

Dimensions and Weights



Size	A inch	C inch	K inch	Ø D	L inch	Weight lbs	Stroke inch
1/2"	2.5	19.5	10.7	4.9	2.2	16.5	0.25
3/4"	2.85	19.7	10.9	4.9	2.2	16.9	0.25
1"	3.25	19.9	11.05	4.9	2.2	18	0.25
1 1/4"	3.5	20.1	11.15	4.9	2.2	18.7	0.25
1 1/2"	3.9	20.3	11.4	4.9	2.2	19.8	0.25
2"	4.55	20.65	11.7	4.9	2.5	23.1	0.3
2 1/2"	5.45	21.05	12.05	4.9	2.7	27.5	0.3
3"	6	21.45	12.4	4.9	2.75	29.7	0.3
4"	7.25	21.85	12.9	4.9	2.95	36.3	0.35
5"	8.35	22.45	13.5	4.9	3.15	42.9	0.35
6"	9.55	23.05	14	4.9	3.15	50.6	0.35
8"	11.9	24.2	15.1	4.9	3.75	88	0.35

Dimensions in inch

High Temperature Valve 8053-GS3



Flow Coefficients - Cv-values

Ordering code	-	A	1	B	6	2	7	C	3	4	8	5	9	
Size	Charact.	100 %	63 %	40 %	25 %	20%	16 %	12 %	10 %	6,3 %	2,5 %	2 %	1 %	0,4%
1/2"	(mod.) linear	4.6	3	2	1.6	-	0.82	0.57	0.51	0.3	0.16	0.09	0.05	0.021
	eq. perc.	2	-	1.3	-	0.4	-	-	-	0.12	-	-	-	-
3/4"	(mod.) lin.	7.4	-	-	-	-	1.16	-	-	-	-	0.15	-	-
	eq. perc.	3.5	-	1.7	-	-	-	-	-	-	-	-	-	-
1"	(mod.) linear	13	7.4	4.6	-	-	1.9	-	1.08	0.72	0.3	-	0.16	0.05
	eq. perc.	5.8	-	2.8	-	1.3	-	-	-	0.41	-	-	-	-
1	(mod.) linear	19	12	-	-	-	-	-	-	-	-	-	-	-
1/4"	eq. perc.	9.3	5.45	-	-	-	-	-	-	-	-	-	-	-
1	(mod.) lin.	30	19	13	8.1	-	-	-	-	-	-	-	-	-
1/2"	eq. perc.	13	9.9	-	3.2	-	-	-	-	-	-	-	-	-
2"	(mod.) linear	52	32	23	14	12	-	-	-	-	-	-	-	-
	eq. perc.	22	14	-	-	-	-	3.5	-	-	-	-	-	-
2	(mod.) linear	60	41	-	17	-	-	-	-	-	-	-	-	-
1/2"	eq. perc.	35	-	-	9.3	-	-	-	-	-	-	-	-	-
3"	(mod.) linear	107	67	46	-	-	-	-	-	-	-	-	-	-
	eq.perc.	56	41	-	-	-	-	-	-	-	-	-	-	-
4"	(mod.) linear	179	110	72	-	-	-	-	-	-	-	-	-	-
	eq.perc.	89	56	-	-	-	-	-	-	-	-	-	-	-
5"	(mod.) linear	275	-	110	-	-	-	-	-	-	-	-	-	-
	eq.perc.	135	-	-	-	-	-	-	-	-	-	-	-	-
6"	(mod.) linear	392	246	-	-	-	-	-	-	-	-	-	-	-
	eq.perc.	171	104	-	-	-	-	-	-	-	-	-	-	-
8"	(mod.) linear	650	408	-	-	-	-	-	-	-	-	-	-	-
	eq.perc.	329	-	-	-	-	-	-	-	-	-	-	-	-