

# Sliding Gate Motor Valve 8030



## GS 3 series, 1/2" up to 10"

**Sliding gate motor valve for control and switching of neutral through to highly aggressive media in process engineering, chemical industries and for plant equipment.**

- Space saving wafer type construction
- Lowest possible weight (especially in larger sizes)
- Low operation noise level (quiet operation)
- Control of high differential pressures with small actuators
- Fast response time
- Precise control
- High duty cycle gear motor
- Meets the requirements of TA-Luft 2021



### Technical Information

Design	ANSI flange wafer (self-aligning) for flanges acc. ASME B16.5 RF or DIN EN 1092-1 Form B		
Nominal size	1/2" up to 10"		
Nominal pressure acc. DIN 2401 for flanges with facing type B	580 psi (fits also to 145-365 psi) 1450 psi 230 psi and 363 psi	1/2" - 6" 1/2" - 3" 8" - 10"	
Nominal pressure acc. ANSI for flanges acc. ASME B16.5 RF	ANSI 150 ANSI 300 ANSI 600	1/2" - 10" 1/2" - 6" 1/2" - 3"	
Nominal pressure for „raised face“ flanges	10K 20K	1/2" - 2" 1/2" - 1 1/2"	
Flange gaskets (customer side)	ANSI B16.21 or DIN EN 1514-1 in the respective nominal pressure rating		
Media temperature	Versions from -76°F up to +662°F		
Rangeability	30 : 1		
Leakage	Disc pair Carbon-stainless steel	Disc pair SFC < 0,0005 IV-S1 F	Disc pair STN 2 < 0,001 IV F
% of Kvs IEC 60534-4 EN 12266-1	< 0,0001 E	< 0,0005 IV-S1 F	< 0,001 IV F
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<sub>vs</sub>-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]	662	662	662	662	662	662
Body material cpl. carbon steel						
Tmin [°F]	-76	-76	14	-4	-4	14
Tmax [°F]	572	572	572	572	572	572

### Materials

Body	stainless steel CF8M	carbon steel ASTM A216 WCB
Bodycover	stainless steel 316 Ti or 316 L	
Packing	PTFE (carbon filled), spring SST 301	
Actuating stem	Stainless steel, roller burnished	
Bellow	Stainless steel 316 Ti	
Fixed plate	Stainless steel 1.4571, plated	STN2-disc
Sliding disc	Standard: special carbon material	SFC-disc STN2-disc
Coupling ring for discs	Stainless steel 318	

## Stroking times (sec.):

Driving force	200 lbf	450 lbf	990 lbf
Stroking speed inch/min	0,39	0,36	0,94
DN 15 - 40	36	39	15
DN 50 - 80	47	52	20
DN 100 - 150	50	55	21

## Power consumption (Watt):

24 VAC, 230 VAC	5	6,6	40/28
24 VDC	10	20	30
400 V, 50 Hz	10	10	35
110/120 V AC	5	6,6	28

## Options

Limit switches	max. 2	max. 2	max. 2
Potentiometer	1	1	max. 2*
Positioner, analogue	yes	yes	yes

\* One potentiometer is required for positioner option

## Technical Information for the motor actuator

Driving force	200 lbf; 450 lbf; 990 lbf
Type of duty (according VDE 0530)	S 1 - 100 % ED (200 lbf; 450 lbf; 990 lbf DC) S 4 - 30 % ED 600c/h (200 lbf; 450 lbf) S 4 - 30 % ED 600c/h (990 lbf)
Power connections	24 V AC, 24 V DC 110/120V AC 230 V AC 400 V 3-phase-AC others on request
Ambient temperature	30°F up to +140°F; -4°F up to 140°F with heating resistor element
Mounting position	free choice, but motor not vertical down
Protection class (Din 40050)	IP 65

## Optional high speed motors

Driving force	200 lbf				450 lbf		990 lbf	
	0,53	0,31	0,20	0,11	0,60	0,30	0,22	1,97
Stroking speed inch/min.								
Nominal size	Running time for full stroke (sec.)							
1/2" - 1 1/2"	28	47	74	129	25	50	67	7,5
2" - 3"	37	62	97	171	33	66	88	9,9
4" - 10"	39	66	103	181	35	70	94	10,5

## Admissible Pressures

(For temperatures of up to 100°F for ANSI-classes and up to 250°F for PN-classes)

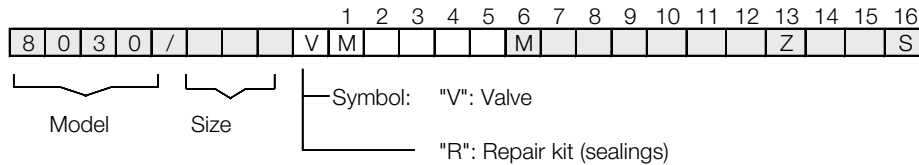
**For temperatures exceeding 100°F (ANSI) or 250°F (PN): consider operation limits**

Size	200 lbf	450 lbf	990 lbf	200 lbf	450 lbf	990 lbf
	maximum pressure (psi)			maximum pressure (psi)		
	carbon/SFC - stainless steel coated			STN2		
1/2"	1140	1480	1480	810	1480	1480
3/4"	985	1480	1480	620	1480	1480
1"	830	1276 (1480)	1276 (1480)	465	1105	1276 (1480)
1 1/4"	680	1480	1480	345	820	1480
1 1/2"	515	1220	1276 (1450)	240	565	1055
2"	335	800	1450	140	335	780
2 1/2"	285	675	1160	115	275	640
3"	180	430	695	70	165	385
4"	115	275	480	45	105	240
5"	80	185	335	30	70	160
6"	60	140	230	22	50	120
8"	35	80	185	12	29	67
10"	20	50	115	7	17	41

\*figures in brackets for bodys of carbon steel

	Pressure limits ANSI and DIN in psi					
	ANSI150	ANSI 300	ANSI 600	PN16	PN40	PN100
P max. carbon steel	284	741	1480	232	580	1450
P max. stainless steel	276	719	1440			

## Ordering Number System



1 - 5 : Please quote all 5 sections.  
6 - 16: Quote only if required.

1. Function	2. Body design	3. Body material	4. Safety position	5. Actuator	6. Special versions	7. Motor voltages
M Control valve with motor actuator type 8030	E GS3 - flange less design acc. ANSI 150 F GS3 - flange less design acc. ANSI 300 K GS3 - flangeless design acc. ANSI 600 G GS3 - flangeless design acc. DIN, 145-580 psi H GS3 - flangeless design acc. DIN, 1450 psi	0 Carbon-Steel ASTM A216 WCB 1 Stainless Steel CF8M	- without	4 200 lbf (0,9 kN) IP65 1 450 lbf (2,0 kN) IP65 2 990 lbf (4,5 kN) IP65	M To state, if further sections are quoted	- 230 V AC (Standard) 1 24 V AC 2 400 V, 50 Hz rotary current 3 24 V DC 4 110/120V AC
8. Stem sealing	9. Sliding disc	10. Fixed disc	11. Cv-values	12. Flow characteristic	13. Accessories	14. Limit switches
- PTFE-V-shaped seal, self-adjusting (Standard) 1 additional stainless steel bellow 316 Ti	- carbon material 9 STN2/STN3 S SFC	- stainless steel/stellite 1 STN2 (only in combination with the position „9“ STN2-disc) 3 dto. STN3	- 100% (Stand.) A red. to 63 % 1 red. to 40 % B red. to 25 % 2 red. to 16 % C red. to 10 % 3 red. to 6.3 % 4 red. to 2.5 % 5 red. to 1 % 6 red. to 20 % 7 red. to 12 % 8 red. to 2 % 9 red. to 0,4 %	- linear 1 equal percentage	Z To state, if further sections are quoted	- without 1 one limit switch 2 two limit switches
15. Feedback	16. Special versions	17. Options	18. Special treatment	19. Positioner		
- without potentiometer 1000 Ohm 1 stroke feed back for positioner 0/4 - 20mA C	S Quote for further special versions	- Standard	- Standard	- without positioner 0-10V 3 positioner 4-20mA N M positioner 0-20mA		

Ordering example: 8030/100VME1-1M4 - - - - Z2  
 GS3-control valve with motor actuator, 4", ANSI#150, stainless steel, actuator 450 lbf, 120 V AC,  
 PTFE-Packing, carbon-stainless steel 316 Ti stellite coated, linear characteristics, 2 stroke  
 dependent limit switches

## Application limitations for GS3 valves in stainless steel

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

### PN40

Size	Sliding unit: carbon/SFC - stainless steel, coated						Paarung: STN 2					
	maximum pressures for GS3-valves in stainless steel						maximum pressures for GS3-valves in stainless steel					
	210°F	300°F	390°F	480°F	570°F	660°F	210°F	300°F	390°F	480°F	570°F	660°F
1/2"-1 1/4"	580	580	580	580	580	580	580	580	580	580	580	580
1 1/2"	580	580	580	580	580	580	580	580	580	580	580	535
2"	580	580	580	580	580	580	580	580	580	580	580	580
2 1/2"	580	580	580	580	580	580	580	580	580	580	535	465
3"	580	580	580	580	580	580	520	495	480	375	320	275
4"	480	480	480	480	480	480	465	450	435	350	290	245
5"	335	335	335	335	335	335	305	305	275	230	190	160
6"	230	230	230	230	230	230	220	220	205	160	130	115
8" (only PN16)	230	230	220	190	175	160	120	110	100	80	65	55
10" (only PN16)	145	130	130	115	100	85	85	80	75	60	50	40

Limitation for SFC-sliding discs: 570°F

### PN100

Size	Sliding unit: carbon/SFC - stainless steel, coated						Paarung: STN 2					
	maximum pressures for GS3-valves in stainless steel						maximum pressures for GS3-valves in stainless steel					
	210°F	300°F	390°F	480°F	570°F	660°F	210°F	300°F	390°F	480°F	570°F	660°F
1/2"	1450	1450	1450	1350	1220	1145	1450	1450	1450	1350	1220	1145
3/4"	1450	1450	1290	1175	1060	985	1450	1450	1290	1175	1060	985
1"	1275	1175	1015	915	825	785	1275	1175	1015	915	825	785
1 1/4"	1450	1350	1160	1060	945	900	1450	1350	1160	1060	945	870
1 1/2"	1275	1175	1015	915	825	785	1045	1000	945	770	625	535
2"	1450	1450	1450	1450	1450	1365	1115	1060	1015	810	665	580
2 1/2"	1160	1160	1160	1145	1030	970	900	855	810	655	535	465
3"	695	695	695	695	695	640	520	495	480	375	320	275

Limitation for SFC-sliding discs: 570°F

### ANSI150

Size	Sliding unit: carbon/SFC - stainless steel, coated								Sliding unit: STN2							
	max. admissible pressures for GS3-valves in stainless steel								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	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F
1/2" - 5"	275	265	235	215	200	175	150	120	275	265	235	215	200	175	150	120
6"	230	230	230	215	200	175	150	120	235	235	235	215	200	170	140	120
8"	230	230	230	215	200	175	150	120	150	145	120	110	100	80	65	55
10"	150	150	150	145	135	120	105	100	85	85	85	80	75	60	50	40

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 stainless steel								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	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F
1/2" - 2 1/2"	720	695	610	560	520	485	460	440	720	695	610	560	520	485	460	440
3"	695	695	610	560	520	485	460	440	530	530	530	505	480	390	320	275
4"	480	480	480	480	480	480	460	440	480	480	480	460	435	355	290	250
5"	335	335	335	335	335	335	335	335	320	320	320	305	290	235	190	165
6"	230	230	230	230	230	230	230	230	230	230	230	225	210	170	140	120
8"	230	230	230	145	135	120	105	100	230	230	220	200	180	155	140	130

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 stainless steel								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	100°F	120°F	210°F	300°F	390°F	480°F	570°F	660°F
1/2" - 3/4"	1440	1395	1225	1115	1035	970	915	880	1440	1395	1225	1115	1035	970	915	880
1"	1275	1275	1225	1115	1015	925	830	785	1275	1275	1225	1115	1015	925	830	785
1 1/4"	1440	1395	1225	1115	1035	970	915	880	1440	1395	1225	1115	1035	970	915	875
1 1/2"	1275	1275	1225	1115	1015	925	830	785	1050	1050	1050	1000	950	770	630	545
2"	1440	1395	1225	1115	1035	970	915	880	1125	1125	1125	1070	1020	825	675	585
2 1/2"	1160	1160	1160	1115	1035	970	915	880	905	905	605	865	820	665	545	470
3"	695	695	695	695	695	695	695	645	530	530	530	505	480	390	320	275

Limitation for SFC-sliding discs: 570°F

## 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 actual power might allow it.

### PN40

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					
	210°F	300°F	390°F	480°F	570°F	660°F	210°F	300°F	390°F	480°F	570°F	660°F
1/2" - 2"	580	580	580	580	580	580	580	580	580	580	580	580
2 1/2"	580	580	580	580	580	580	580	580	580	535	460	460
3"	580	580	580	580	580	580	520	495	480	375	320	275
4"	480	480	480	480	480	475	480	450	435	350	290	245
5"	335	335	335	335	335	330	320	305	275	230	190	155
6"	230	230	230	230	230	230	230	220	205	160	130	115
8" (max 365 psi)	230	230	220	190	175	155	120	110	100	80	65	55
10" (max 365 psi)	145	130	130	115	100	87	85	80	75	60	50	40

Limitation for SFC-sliding discs: 570°F

### PN100

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					
	210°F	300°F	390°F	480°F	570°F	660°F	210°F	300°F	390°F	480°F	570°F	660°F
1/2" - 3/4"	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450	1450
1"	1450	1450	1450	1450	1365	1260	1450	1450	1450	1450	1365	1260
1 1/4"	1450	1450	1450	1450	1450	1435	1450	1450	1450	1220	1000	870
1 1/2"	1450	1450	1450	1450	1365	1260	1045	1000	945	770	625	535
2"	1450	1450	1450	1450	1450	1360	1115	1060	1015	810	665	580
2 1/2"	1160	1160	1160	1160	1160	1100	900	855	810	655	535	460
3"	695	695	695	695	695	635	520	495	480	375	320	275

Limitation for SFC-sliding discs: 570°F

### 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	150	145	120	110	100	80	65	55
10"	150	150	150	145	135	120	105	87	85	85	85	80	75	60	50	40

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 1/2"	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
8"	230	230	220	200	180	155	140	130	150	145	120	110	100	65	65	55

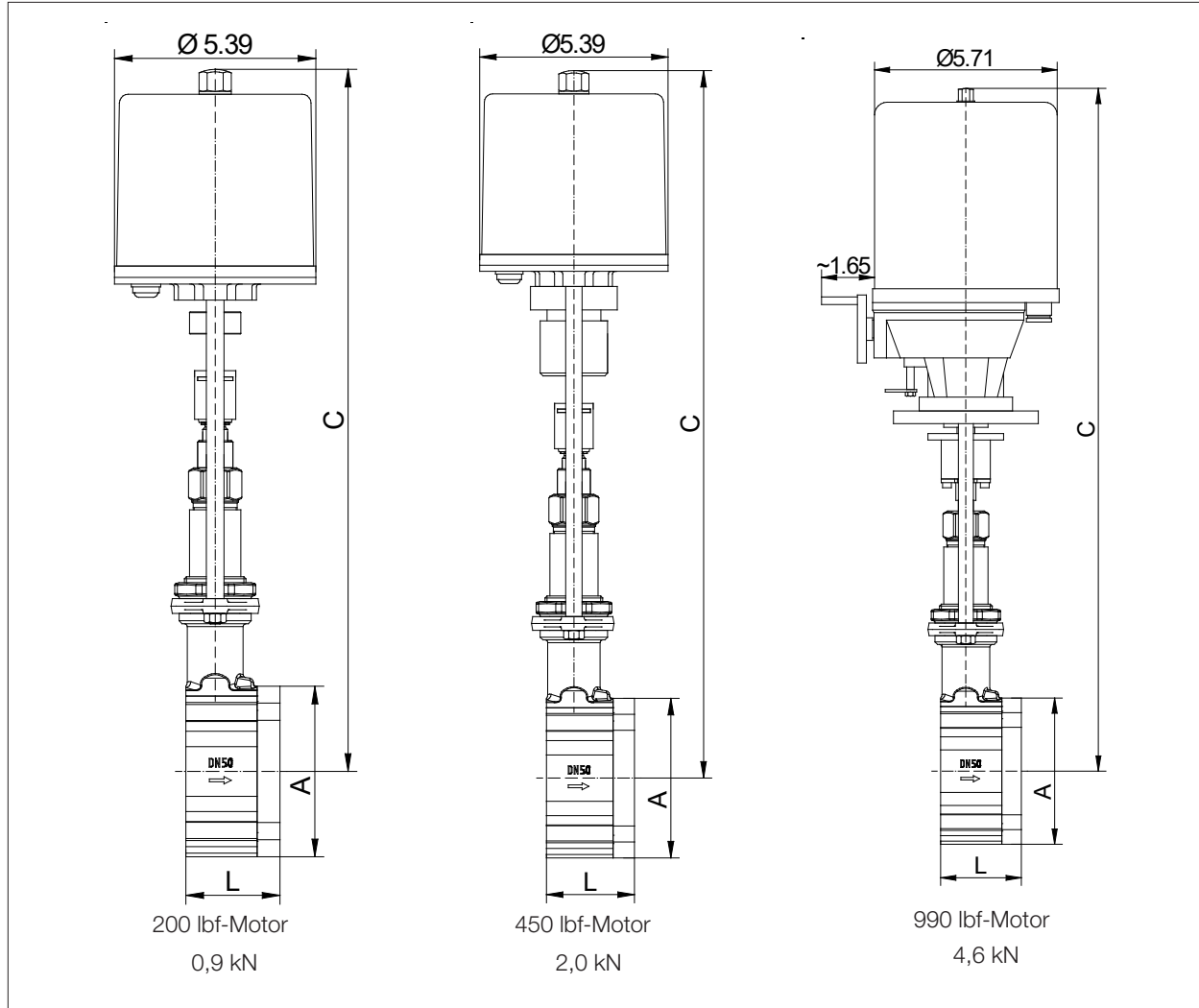
Limitation for SFC-sliding discs: 570°F

### 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

## Dimensions and Weights



Size	A	C			L	Weight lbs			Stroke
		200 lbf	450 lbf	990 lbf		200 lbf	450 lbf	990 lbf	
1/2"	2.5	17.7	19.15	20.65	2.2	9.9	10.6	17.2	0.25
3/4"	2.85	17.9	19.35	20.85	2.2	10.3	11	17.6	0.25
1"	3.25	18.1	19.55	21.05	2.2	11	11.7	18.3	0.25
1 1/4"	3.5	18.3	19.75	21.25	2.2	11.4	12.1	18.7	0.25
1 1/2"	3.9	18.5	19.95	21.45	2.2	12.3	13	19.6	0.25
2"	4.55	18.9	20.35	21.85	2.5	15.6	16.3	22.9	0.3
2 1/2"	5.45	19.3	20.75	22.25	2.7	18.9	19.6	26.2	0.3
3"	6	19.5	20.95	22.45	2.75	21.8	22.4	29	0.3
4"	7.25	20.1	21.55	23.05	2.95	28.6	29.3	35.9	0.35
5"	8.35	20.65	22.15	23.6	3.15	33.9	34.5	41.1	0.35
6"	9.55	21.25	22.7	24.2	3.15	-	42.5	49.1	0.35
8"	11.9	22.45	23.9	25.4	3.65	-	79.2	85.8	0.35
10"	14.15	23.45	24.9	26.4	3.8	-	91.1	97.7	0.35

dimensions in inch

# Sliding Gate Motor Valve 8030-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 1/4"	(mod.) linear	19	12	-	-	-	-	-	-	-	-	-	-	-
	eq. perc.	9.3	5.45	-	-	-	-	-	-	-	-	-	-	-
1 1/2"	(mod.) lin.	30	19	13	8.1	-	-	-	-	-	-	-	-	-
	eq. perc.	13	9.9	-	3.2	-	-	-	-	-	-	-	-	-
2"	(mod.) linear	52	32	23	14	12	-	-	-	-	-	-	-	-
	eq. perc.	22	14	-	-	-	-	3.5	-	-	-	-	-	-
2 1/2"	(mod.) linear	60	41	-	17	-	-	-	-	-	-	-	-	-
	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	-	-	-	-	-	-	-	-	-	-	-	-
10"	(mod.) linear	1056	667	-	-	-	-	-	-	-	-	-	-	-
	eq.perc.	-	-	-	-	-	-	-	-	-	-	-	-	-