

STS Series

Technical data ① Cylinder weight

● Short stroke

Unit: g

Model series	Bore size (mm)	Bearing	Weight for 0 mm stroke			Weight per switch (Grommet)	Additional weight per St = 25 mm ø8 to ø16: (Additional weight per St = 10 mm)		
			Cylinder body	End plate					
				Standard	Steel				
<ul style="list-style-type: none"> ● Standard single rod STS-M_B ● Low speed STS-M_BO ● Copper and PTFE free STS-M_B-P6 ● Corrosion proof STS-M_B-M/M1 ● Heat resistance STS-M_BT ● Packing fluoro rubber STS-M_BT2 ● Rubber-air cushioned STS-M_B*C ● Fine speed STS-M_BF 	ø 8	M	102	22	62	Refer to the weight in the switch specifications.	29		
		B	89				29		
	ø12	M	151	27	76		37		
		B	154				37		
	ø16	M	225	37	104		47		
		B	229				47		
	ø20	M	483	72	200		150		
		B	363				150		
	ø25	M	534	78	219		169		
		B	415				169		
	ø32	M	924	162	451		231		
		B	804				231		
	ø40	M	1333	195	543		283		
		B	1214				283		
	ø50	M	2026	415	1158		428		
		B	1915				428		
	ø63	M	2803	530	1478		557		
		B	2569				557		
ø80	M	6435	1335	3720	1265				
	B	5876			1150				
ø100	M	10850	2685	7491	1933				
	B	9934			1817				
<ul style="list-style-type: none"> ● Stroke adjustable STS-M_BP 	ø 8	M	260	22	62	Refer to the weight in the switch specifications.	33		
		B	243				33		
	ø12	M	340	27	76		45		
		B	333				45		
	ø16	M	462	37	104		59		
		B	454				59		
	ø20	M	742	72	200		210		
		B	602				210		
	ø25	M	836	78	219		229		
		B	697				229		
	ø32	M	1499	162	451		335		
		B	1331				335		
	ø40	M	2006	195	543		407		
		B	1841				407		
	ø50	M	3323	415	1158		620		
		B	3106				620		
	ø63	M	4458	530	1478		749		
		B	4118				749		
ø80	M	9505	1335	3720	1755				
	B	8776			1526				
<ul style="list-style-type: none"> ● Position locking STS-M_BQ-H (with head side position locking) 	ø20	M	680	72	200	Refer to the weight in the switch specifications.	150		
		B	560				150		
	ø25	M	767	78	219		169		
		B	648				169		
	ø32	M	1235	162	451		231		
		B	1115				231		
	ø40	M	2183	195	543		283		
		B	2064				283		
	ø50	M	3305	415	1158		428		
		B	3194				428		
	ø63	M	4554	530	1478		557		
		B	4320				557		
	ø80	M	11583	1335	3720		1265		
		B	10679				1150		
	<ul style="list-style-type: none"> ● Position locking STS-M_BQ-R (with rod side position locking) 	ø20	M	666	72		200	Refer to the weight in the switch specifications.	150
			B	546					150
		ø25	M	749	78		219		169
			B	630					169
ø32		M	1221	162	451	231			
		B	1101			231			
ø40		M	2126	195	543	283			
		B	2007			283			
ø50		M	3214	415	1158	428			
		B	3103			428			
ø63		M	4434	530	1478	557			
		B	4200			557			
ø80		M	11340	1335	3720	1265			
		B	10436			1150			

● Short stroke

Model series	Bore size (mm)	Bearing	Weight for 0 mm stroke			Weight per switch (Grommet)	Additional weight per St = 25 mm	Unit: g	
			Cylinder body	End plate					
				Standard	Steel				
<ul style="list-style-type: none"> ● Coil scraper STS-^M_BG1 ● Rubber scraper STS-^M_BG ● Coolant proof STS-^M_BG2, G3 ● Anti-spatter adherence STS-^M_BG4 	ø20	M	572	72	200	Refer to the weight in the switch specifications.	150		
		B	452						
	ø25	M	630	78	219				
		B	511						
	ø32	M	1083	162	451				
		B	963						
	ø40	M	1667	195	543				
		B	1548						
	ø50	M	2299	415	1158				
		B	2188						
	ø63	M	3125	530	1478				
		B	2891						
	ø80	M	6861	1335	3720				
		B	6302						
<ul style="list-style-type: none"> ● Valve equipped STS-^M_BV¹/₂ (with valve on front) 	ø20	M	668	72	200	Refer to the weight in the switch specifications.	150		
		B	548						
	ø25	M	719	78	219				
		B	600						
	ø32	M	1136	162	451				
		B	1016						
	ø40	M	1648	195	543				
		B	1529						
	ø50	M	2428	415	1158				
		B	2317						
	ø63	M	3205	530	1478				
		B	2971						
	<ul style="list-style-type: none"> ● Valve equipped STS-^M_BV¹/₂S (with valve on side) 	ø20	M	663	72		200	Refer to the weight in the switch specifications.	150
			B	543					
ø25		M	714	78	219				
		B	595						
ø32		M	1104	162	451				
		B	684						
ø40		M	1651	195	543				
		B	1532						
ø50		M	2344	45	1158				
		B	2233						
ø63		M	3121	530	1478				
		B	2887						

Note: Refer to Ending Page 16 for the switch weight of 3 m and 5 m switch lead wire lengths.

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

● Long stroke

Unit: g

Model series	Bore size (mm)	Bearing	Weight for 0 mm stroke			Additional weight per St = 25 mm
			Cylinder body	End plate		
				Standard	Steel	
<ul style="list-style-type: none"> ● Standard single rod STL-M_B ● Low speed STL-M_BO ● Copper and PTFE free STL-M_B-P6 ● Corrosion proof STL-M_B-MM1 ● Heat resistance STL-M_BT ● Packing fluoro rubber STL-M_BT2 ● Rubber-air cushioned STL-M_B*C ● Fine speed STL-M_BF 	ø 8	M	103	22	62	Refer to the weight in the switch specifications.
		B	99			
	ø 12	M	159	27	76	
		B	173			
	ø 16	M	232	37	104	
		B	265			
	ø 20	M	890	72	200	
		B	751			
	ø 25	M	979	78	219	
		B	840			
	ø 32	M	1705	162	451	
		B	1520			
	ø 40	M	2218	195	543	
		B	2033			
	ø 50	M	3587	415	1158	
		B	3228			
	ø 63	M	4501	530	1478	
		B	4142			
ø 80	M	10337	1335	3720		
	B	9341				
ø 100	M	16649	2685	7491		
	B	15385				
<ul style="list-style-type: none"> ● Stroke adjustable STL-M_BP 	ø 8	M	261	22	62	
		B	253			
	ø 12	M	348	27	76	
		B	352			
	ø 16	M	469	37	104	
		B	490			
	ø 20	M	1149	72	200	
		B	990			
	ø 25	M	1281	78	219	
		B	1122			
	ø 32	M	2280	162	451	
		B	2049			
	ø 40	M	2891	195	543	
		B	2658			
	ø 50	M	4884	415	1158	
		B	4419			
	ø 63	M	6156	530	1478	
		B	5691			
ø 80	M	12035	1335	3720		
	B	11191				
<ul style="list-style-type: none"> ● Position locking STL-M_BQ-H (with head side position locking) 	ø 20	M	1087	72	200	
		B	948			
	ø 25	M	1212	78	219	
		B	1073			
	ø 32	M	2016	162	451	
		B	1831			
	ø 40	M	3068	195	543	
		B	2883			
	ø 50	M	4866	415	1158	
		B	4507			
	ø 63	M	6252	530	1478	
		B	5893			
ø 80	M	15485	1335	3720		
	B	14144				
<ul style="list-style-type: none"> ● Position locking STL-M_BQ-R (with rod side position locking) 	ø 20	M	1073	72	200	
		B	934			
	ø 25	M	1194	78	219	
		B	1056			
	ø 32	M	2002	162	451	
		B	1867			
	ø 40	M	3011	195	543	
		B	2826			
	ø 50	M	4775	415	1158	
		B	4416			
	ø 63	M	6132	530	1478	
		B	5773			
ø 80	M	15242	1335	3720		
	B	13401				

● Long stroke

Model series	Bore size (mm)	Bearing	Weight for 0 mm stroke			Weight per switch (Grommet)	Additional weight per St = 25 mm	Unit: g
			Cylinder body	End plate				
				Standard	Steel			
<ul style="list-style-type: none"> ● Coil scraper STL-^M_BG1 ● Rubber scraper STL-^M_BG ● Coolant proof STL-^M_BG2, G3 ● Anti-spatter adherence STL-^M_BG4 	ø20	M	979	72	200	Refer to the weight in the switch specifications.	150	
		B	840					
	ø25	M	1075	78	219			
		B	936					
	ø32	M	1864	162	451			
		B	1679					
	ø40	M	2552	195	543			
		B	2367					
	ø50	M	3860	415	1158			
		B	3501					
	ø63	M	4823	530	1478			
		B	4464					
ø80	M	10763	1335	3720				
	B	9767						
<ul style="list-style-type: none"> ● Valve equipped STL-^M_BV₂(with valve on front) 	ø20	M	1075	72	200	Refer to the weight in the switch specifications.	150	
		B	936					
	ø25	M	1164	78	219			
		B	1025					
	ø32	M	1917	162	451			
		B	1732					
	ø40	M	2533	195	543			
		B	2348					
	ø50	M	3989	415	1158			
		B	3630					
	ø63	M	4903	530	1478			
		B	4544					
<ul style="list-style-type: none"> ● Valve equipped STL-^M_BV₂S (with valve on side) 	ø20	M	1070	72	200	Refer to the weight in the switch specifications.	150	
		B	931					
	ø25	M	1159	78	219			
		B	1020					
	ø32	M	1885	162	451			
		B	1700					
	ø40	M	2536	195	543			
		B	2351					
	ø50	M	3905	415	1158			
		B	3546					
	ø63	M	4819	530	1478			
		B	4460					

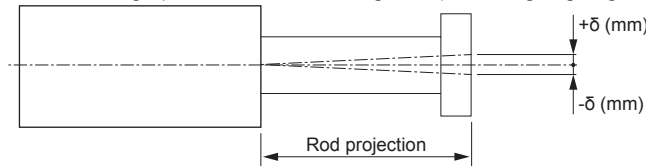
LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

STS/STL Series

Technical data ② Deflection

Deflection

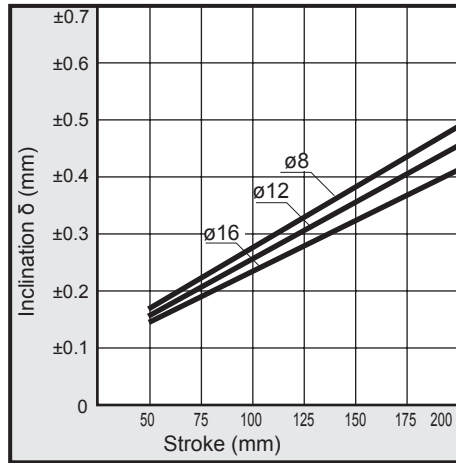
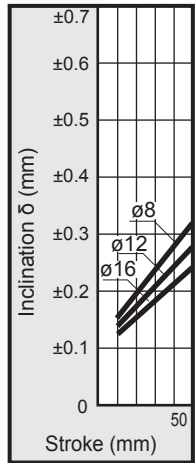
For the inclination that is produced at the end of the end plate when no load is applied, the value in the graph below is used as a guide. (Excluding sag of guide rod)



ø8 to ø16 metal bush bearing

STS-M

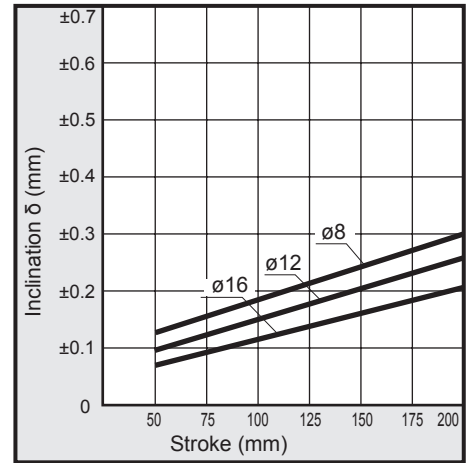
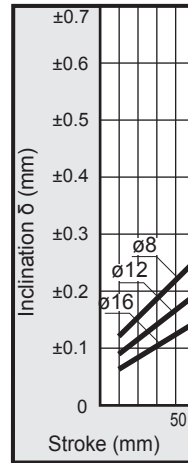
STL-M



ø8 to ø16 ball bearing

STS-B

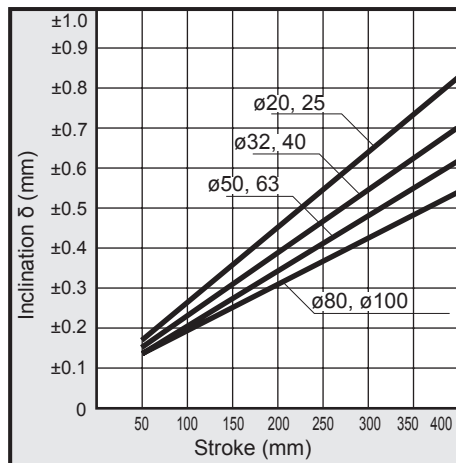
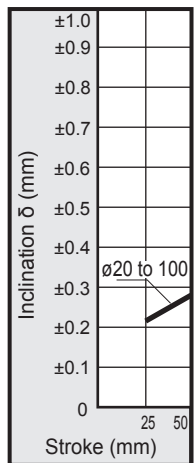
STL-B



ø20 to ø100 Metal bush bearing

STS-M

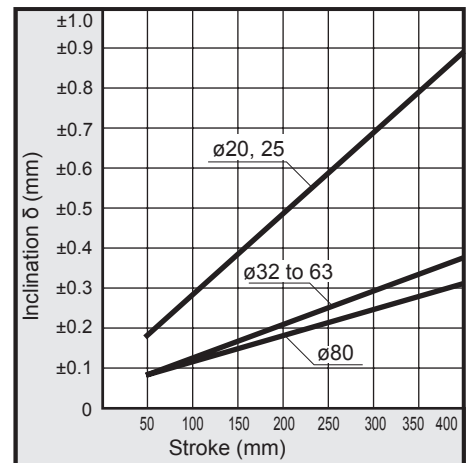
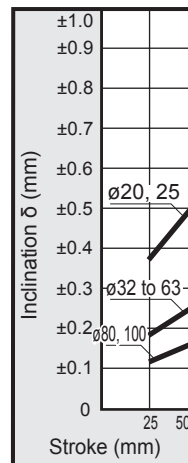
STL-M



ø20 to ø80 ball bearing

STS-B

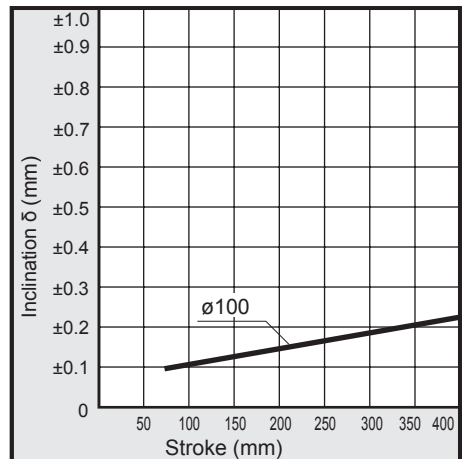
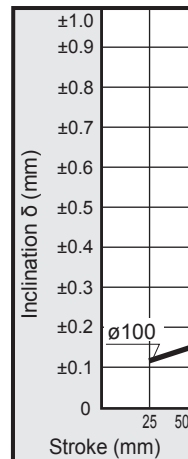
STL-B



ø100 ball bearing

STS-B

STL-B

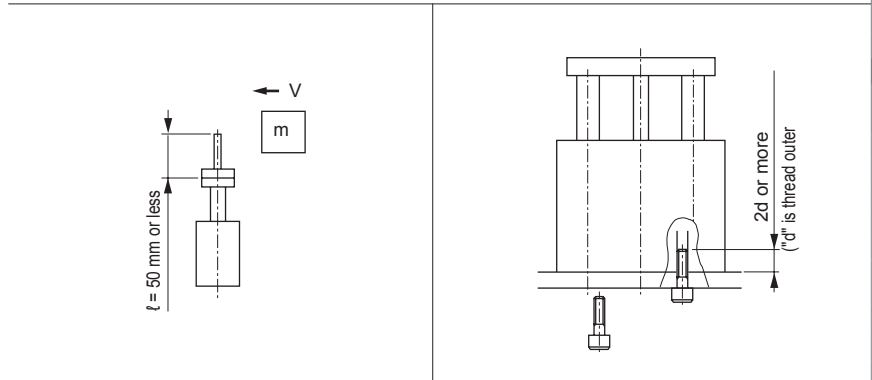
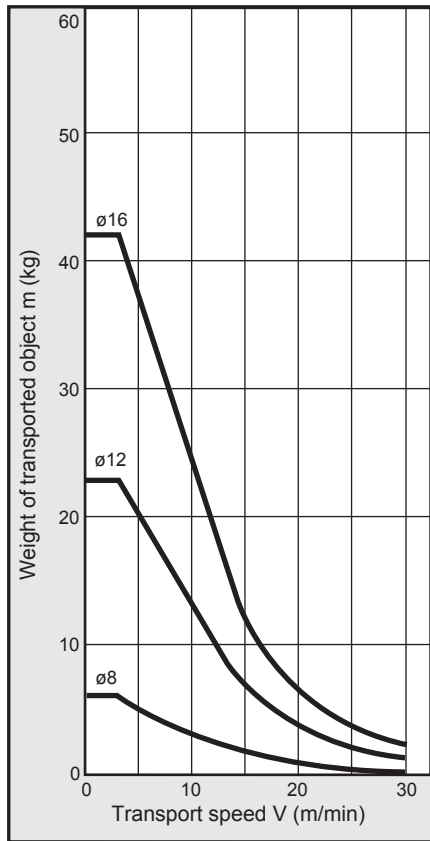


- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG
- STS/STL
- STR2
- UCA2
- ULK*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3*
- NHS
- HRL
- LN
- Hand
- Chuk
- MechHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending

Specified range when using the product as a stopper

Impact load

STS-M-8 to 16 (metal bush bearing)

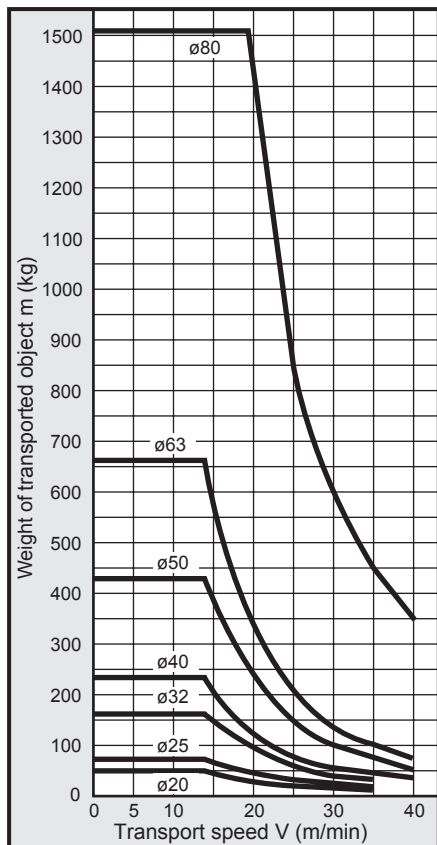


Safety precautions

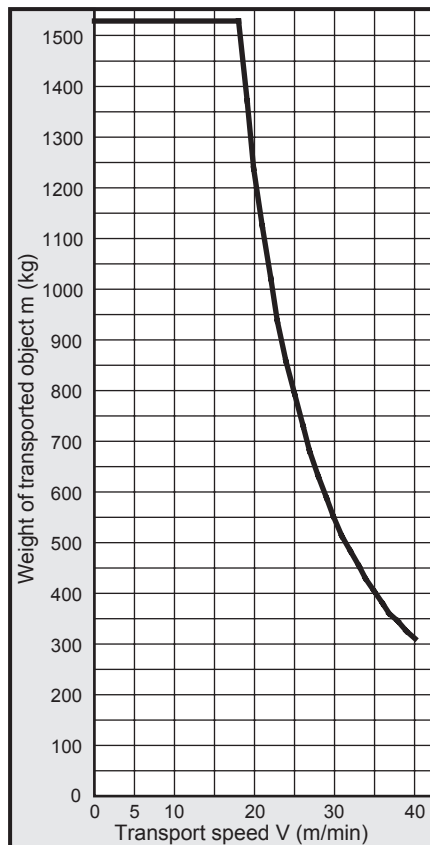
- *1 : When using the cylinder as a stopper, select a model with 50 mm stroke or less (STS-M). (30 mm stroke or less for ø8 to ø16)
- *2 : Make sure that the total length of the stopper section l is 50 mm or less.
- *3 : Make sure that the screw insertion depth of the bolt is $2d$ or more when fixing the cylinder body and consider countermeasures for preventing looseness (adhesive, spring washer, etc.). (for ø80 and ø100, make sure that the screw insertion depth is $1d$. "d" is thread outer diameter)
- *4 : STS-B (ball bearing) cannot be used as a stopper.

Impact load

STS-M-20 to 80 (metal bush bearing)



STS-M-100 (metal bush bearing)



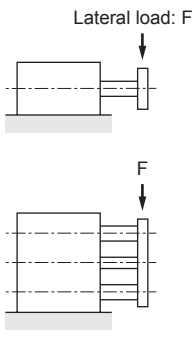
LCM
LCR
LCC
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

STS/STL Series

Unit: N

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

Allowable lateral load

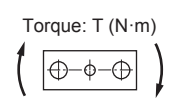


Bore size (mm)	Model No.	Bearing	STS							
			10	20	25	30	40	50	75	100
ø 8	ST _L ^S -M-8	Metal bush bearing	14	11	-	9	8	7	-	-
	ST _L ^S -B-8	Ball bearing	16	11	-	8	7	6	-	-
ø 12	ST _L ^S -M-12	Metal bush bearing	23	19	-	16	14	12	-	-
	ST _L ^S -B-12	Ball bearing	30	21	-	16	13	11	-	-
ø 16	ST _L ^S -M-16	Metal bush bearing	40	34	-	29	25	22	-	-
	ST _L ^S -B-16	Ball bearing	44	32	-	25	21	18	-	-
ø 20	ST _L ^S -M-20	Metal bush bearing	-	-	48	-	-	35	-	-
	ST _L ^S -B-20	Ball bearing	-	-	45	-	-	29	-	-
ø 25	ST _L ^S -M-25	Metal bush bearing	-	-	48	-	-	35	-	-
	ST _L ^S -B-25	Ball bearing	-	-	45	-	-	29	-	-
ø 32	ST _L ^S -M-32	Metal bush bearing	-	-	141	-	-	109	-	-
	ST _L ^S -B-32	Ball bearing	-	-	49	-	-	33	-	-
ø 40	ST _L ^S -M-40	Metal bush bearing	-	-	141	-	-	109	-	-
	ST _L ^S -B-40	Ball bearing	-	-	49	-	-	33	-	-
ø 50	ST _L ^S -M-50	Metal bush bearing	-	-	213	-	-	170	-	-
	ST _L ^S -B-50	Ball bearing	-	-	73	-	-	50	-	-
ø 63	ST _L ^S -M-63	Metal bush bearing	-	-	213	-	-	170	-	-
	ST _L ^S -B-63	Ball bearing	-	-	73	-	-	50	-	-
ø 80	ST _L ^S -M-80	Metal bush bearing	-	-	372	-	-	316	275	243
	ST _L ^S -B-80	Ball bearing	-	-	226	-	-	165	133	112
ø100	ST _L ^S -M-100	Metal bush bearing	-	-	372	-	-	316	275	243
	ST _L ^S -B-100	Ball bearing	-	-	226	-	-	165	133	112

*1: When operating the unit under a load, calculate the allowable lateral load using the two equations below.
 [Anti-corrosion] Catalog allowable lateral load value x 0.6
 [Optional variations other than the above] Catalog allowable lateral load value x 0.9
 *2: When designing, be sure to consider the safety factor according to the operating conditions.

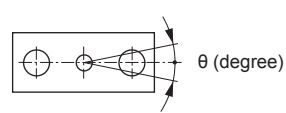
Unit: N·m

Allowable torque



Bore size (mm)	Model No.	Bearing	STS							
			10	20	25	30	40	50	75	100
ø 8	ST _L ^S -M-8	Metal bush bearing	0.14	0.11	-	0.09	0.08	0.07	-	-
	ST _L ^S -B-8	Ball bearing	0.16	0.11	-	0.08	0.07	0.06	-	-
ø 12	ST _L ^S -M-12	Metal bush bearing	0.24	0.19	-	0.16	0.14	0.12	-	-
	ST _L ^S -B-12	Ball bearing	0.31	0.22	-	0.16	0.13	0.11	-	-
ø 16	ST _L ^S -M-16	Metal bush bearing	0.46	0.39	-	0.33	0.29	0.25	-	-
	ST _L ^S -B-16	Ball bearing	0.51	0.37	-	0.29	0.24	0.21	-	-
ø 20	ST _L ^S -M-20	Metal bush bearing	-	-	0.71	-	-	0.52	-	-
	ST _L ^S -B-20	Ball bearing	-	-	1.19	-	-	0.80	-	-
ø 25	ST _L ^S -M-25	Metal bush bearing	-	-	0.76	-	-	0.55	-	-
	ST _L ^S -B-25	Ball bearing	-	-	1.28	-	-	0.85	-	-
ø 32	ST _L ^S -M-32	Metal bush bearing	-	-	2.86	-	-	2.21	-	-
	ST _L ^S -B-32	Ball bearing	-	-	0.99	-	-	0.67	-	-
ø 40	ST _L ^S -M-40	Metal bush bearing	-	-	3.17	-	-	2.45	-	-
	ST _L ^S -B-40	Ball bearing	-	-	1.10	-	-	0.74	-	-
ø 50	ST _L ^S -M-50	Metal bush bearing	-	-	5.86	-	-	4.68	-	-
	ST _L ^S -B-50	Ball bearing	-	-	2.01	-	-	1.38	-	-
ø 63	ST _L ^S -M-63	Metal bush bearing	-	-	6.60	-	-	5.27	-	-
	ST _L ^S -B-63	Ball bearing	-	-	2.26	-	-	1.55	-	-
ø 80	ST _L ^S -M-80	Metal bush bearing	-	-	13.95	-	-	11.85	10.31	9.11
	ST _L ^S -B-80	Ball bearing	-	-	8.48	-	-	6.19	4.99	4.20
ø100	ST _L ^S -M-100	Metal bush bearing	-	-	18.23	-	-	15.48	13.48	11.91
	ST _L ^S -B-100	Ball bearing	-	-	11.07	-	-	8.09	6.52	5.49

Non-rotating accuracy



STS/STL Series

Technical data ④ Allowable lateral load/allowable torque/non-rotating accuracy

Unit: N

Stroke (mm)															
STL															
	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400
	12	9	7	6	5	5	4	-	-	-	-	-	-	-	-
	16	11	9	7	5	4	4	-	-	-	-	-	-	-	-
	20	16	13	11	10	9	8	-	-	-	-	-	-	-	-
	23	16	13	10	8	7	6	-	-	-	-	-	-	-	-
	35	29	24	21	19	17	15	-	-	-	-	-	-	-	-
	34	25	19	16	13	11	10	-	-	-	-	-	-	-	-
	54	45	38	33	30	27	24	22	20	19	17	16	15	14	14
	68	50	39	32	27	23	20	18	16	14	13	12	11	10	9
	54	45	38	33	30	27	24	22	20	19	17	16	15	14	14
	68	50	39	32	27	23	20	18	16	14	13	12	11	10	9
	161	138	121	108	97	88	81	75	69	65	61	57	54	51	48
	100	76	62	51	44	38	34	30	27	25	22	21	19	18	16
	161	138	121	108	97	88	81	75	69	65	61	57	54	51	48
	100	76	62	51	44	38	34	30	27	25	22	21	19	18	16
	243	213	189	170	155	142	131	121	113	106	100	94	89	85	81
	161	126	103	87	75	66	58	52	47	43	40	36	34	31	29
	243	213	189	170	155	142	131	121	113	106	100	94	89	85	81
	161	126	103	87	75	66	58	52	47	43	40	36	34	31	29
	-	402	367	338	312	291	272	255	241	228	216	205	196	187	179
	-	235	197	170	149	133	120	109	99	91	85	79	73	69	64
	-	402	367	338	312	291	272	-	-	-	-	-	-	-	-
	-	235	197	170	149	133	120	-	-	-	-	-	-	-	-

Unit: N·m

Stroke (mm)															
STL															
	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400
	0.12	0.09	0.07	0.06	0.05	0.05	0.04	-	-	-	-	-	-	-	-
	0.16	0.11	0.08	0.07	0.05	0.04	0.04	-	-	-	-	-	-	-	-
	0.21	0.16	0.13	0.11	0.10	0.09	0.08	-	-	-	-	-	-	-	-
	0.24	0.16	0.13	0.10	0.08	0.07	0.06	-	-	-	-	-	-	-	-
	0.40	0.33	0.28	0.24	0.22	0.20	0.17	-	-	-	-	-	-	-	-
	0.39	0.29	0.22	0.18	0.15	0.13	0.12	-	-	-	-	-	-	-	-
	0.80	0.66	0.56	0.49	0.44	0.40	0.35	0.32	0.30	0.28	0.25	0.24	0.22	0.21	0.21
	1.00	0.74	0.58	0.47	0.40	0.34	0.30	0.27	0.24	0.21	0.19	0.18	0.16	0.15	0.13
	0.85	0.71	0.60	0.52	0.47	0.43	0.38	0.35	0.32	0.30	0.27	0.25	0.24	0.22	0.22
	1.07	0.79	0.61	0.50	0.43	0.36	0.32	0.28	0.25	0.22	0.20	0.19	0.17	0.16	0.14
	3.26	2.79	2.45	2.19	1.96	1.78	1.64	1.52	1.40	1.32	1.24	1.15	1.09	1.03	0.97
	2.03	1.54	1.26	1.03	0.89	0.77	0.69	0.61	0.55	0.51	0.45	0.43	0.38	0.36	0.32
	3.62	3.11	2.72	2.43	2.18	1.98	1.82	1.69	1.55	1.46	1.37	1.28	1.22	1.15	1.08
	2.25	1.71	1.40	1.15	0.99	0.86	0.77	0.68	0.61	0.56	0.50	0.47	0.43	0.41	0.36
	6.68	5.86	5.20	4.68	4.26	3.91	3.60	3.33	3.11	2.92	2.75	2.59	2.45	2.34	2.23
	4.43	3.47	2.83	2.39	2.06	1.82	1.60	1.43	1.29	1.18	1.10	0.99	0.94	0.85	0.80
	7.53	6.60	5.86	5.27	4.81	4.40	4.06	3.75	3.50	3.29	3.10	2.91	2.76	2.64	2.51
	4.99	3.91	3.19	2.70	2.33	2.05	1.80	1.61	1.46	1.33	1.24	1.12	1.05	0.96	0.90
	-	15.08	13.76	12.68	11.70	10.91	10.20	9.56	9.04	8.55	8.10	7.69	7.35	7.01	6.71
	-	8.81	7.39	6.38	5.59	4.99	4.50	4.09	3.71	3.41	3.19	2.96	2.74	2.59	2.40
	-	19.70	17.98	16.56	15.29	14.26	13.33	-	-	-	-	-	-	-	-
	-	11.52	9.65	8.33	7.30	6.52	5.88	-	-	-	-	-	-	-	-

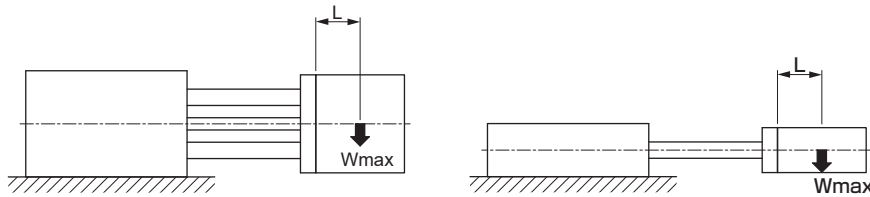
Item	Non-rotating accuracy θ (degrees)	
	Bore size (mm)	
		Metal bush bearing
		Ball bearing
\varnothing 8		± 0.09
\varnothing 12		± 0.06
\varnothing 16		± 0.10
\varnothing 20		± 0.08
\varnothing 25		± 0.04
\varnothing 32		± 0.08
\varnothing 40		± 0.07
\varnothing 50		± 0.06
\varnothing 63		± 0.03
\varnothing 80		± 0.03
\varnothing 100		± 0.05

(Default at PULL) Note: Excluding sag of guide rod

Short stroke

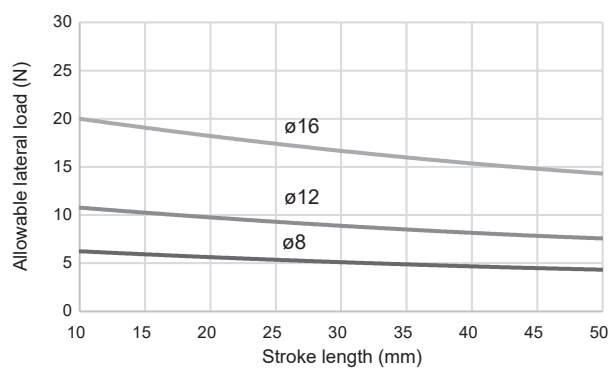
Allowable lateral load Metal bush bearing

W_{max}: Lateral load (N)
L: Load center of gravity position (mm)



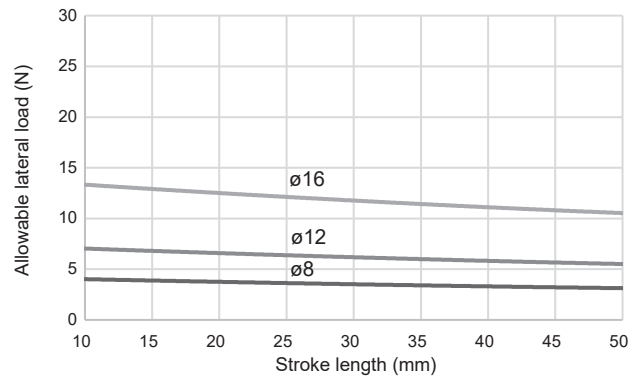
When L = 50 mm

STS-M-8 to 16

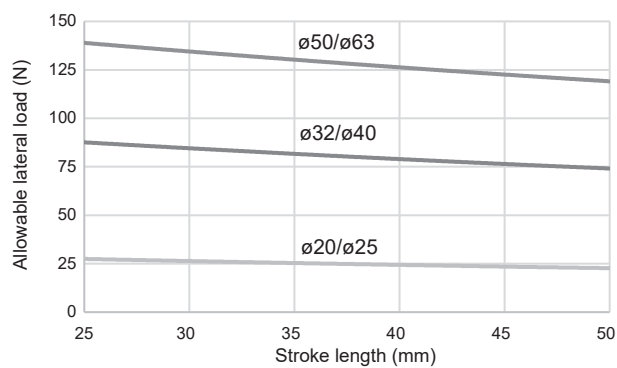


When L = 100 mm

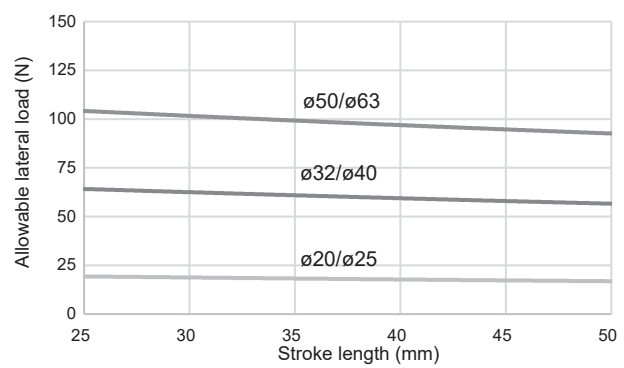
STS-M-8 to 16



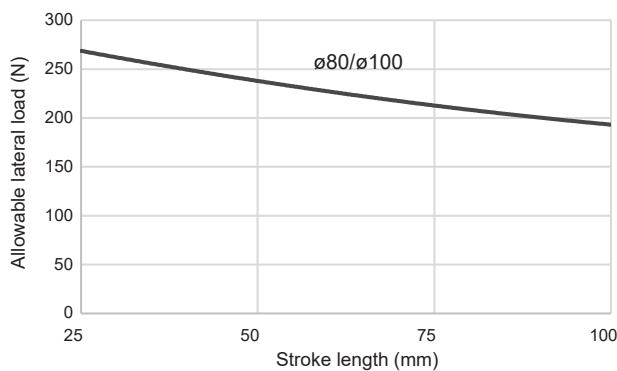
STS-M-20 to 63



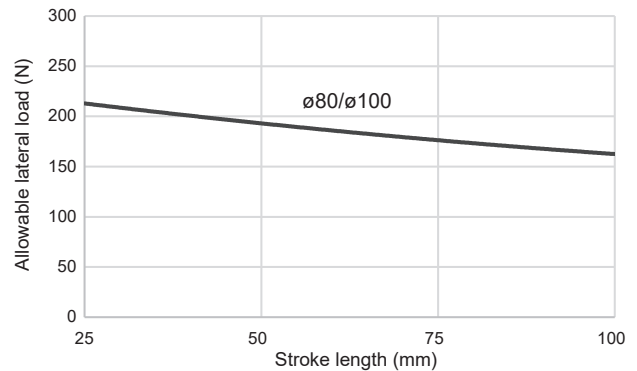
STS-M-20 to 63



STS-M-80/100



STS-M-80/100



* 1: When operating the unit under a load, calculate the allowable lateral load using the two equations below.

[Corrosion-resistant] Catalog allowable lateral load value x 0.6

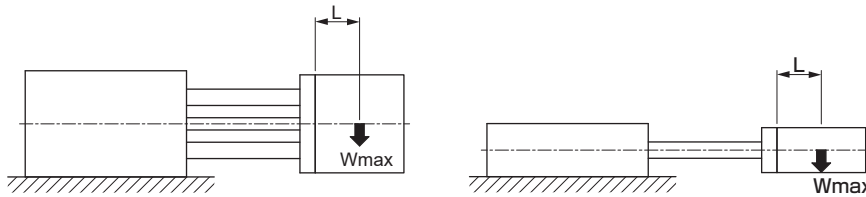
[Optional variations other than the above] Catalog allowable lateral load value x 0.9

2: When designing, be sure to consider the safety factor according to the operating conditions.

- LCM
- LCR
- LCC
- LCW
- LCX
- STM
- STG
- STS/STL
- STR2
- UCA2
- ULK*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3*
- NHS
- HRL
- LN
- Hand
- Chuk
- MecHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending

Short stroke

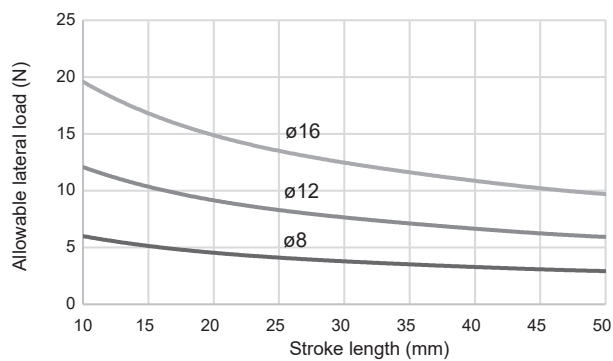
Allowable lateral load Ball bearing



Wmax: Lateral load (N)
L: Load center of gravity position (mm)

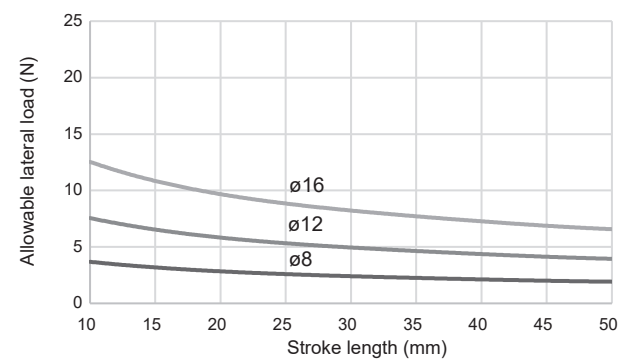
When L = 50 mm

STS-B-8 to 16

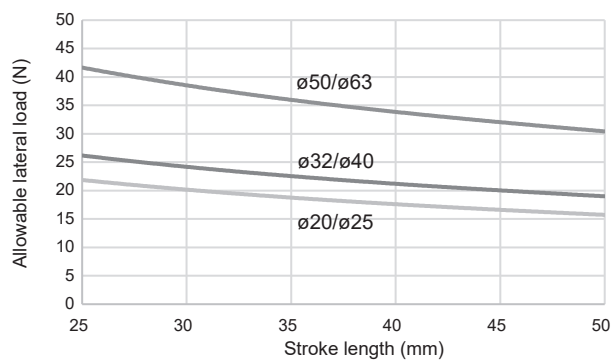


When L = 100 mm

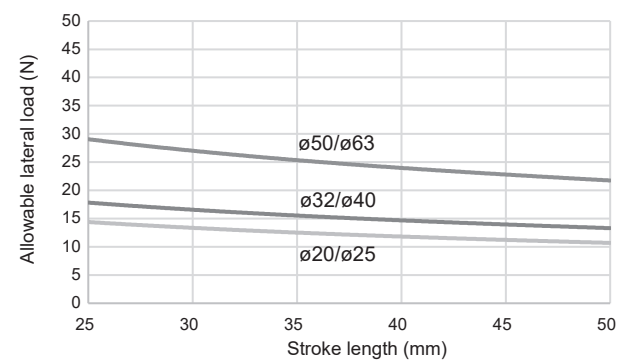
STS-B-8 to 16



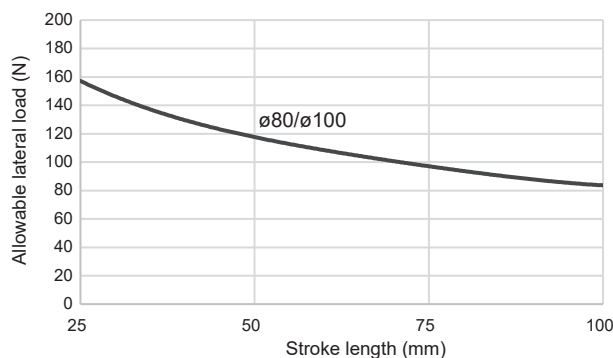
STS-B-20 to 63



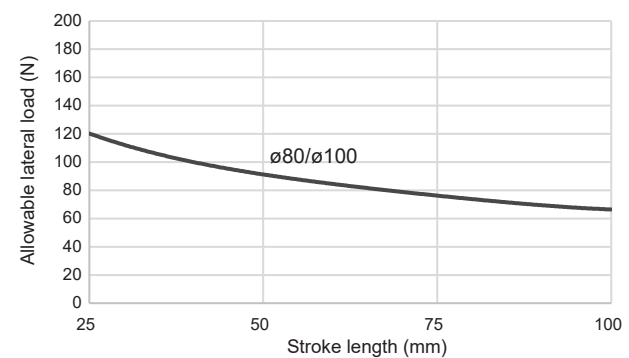
STS-B-20 to 63



STS-B-80/100



STS-B-80/100



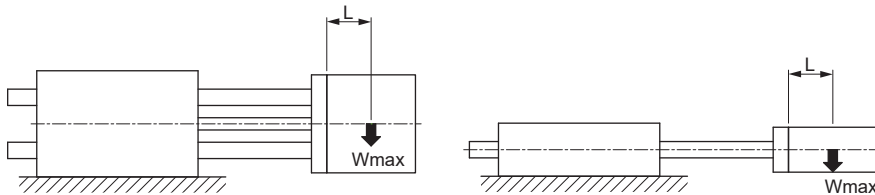
* 1: When operating the unit under a load, calculate the allowable lateral load using the two equations below.
 [Corrosion-resistant] Catalog allowable lateral load value x 0.6
 [Optional variations other than the above] Catalog allowable lateral load value x 0.9
 2: When designing, be sure to consider the safety factor according to the operating conditions.

- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG
- STS/STL
- STR2
- UCA2
- ULK*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3*
- NHS
- HRL
- LN
- Hand
- Chuk
- MechHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending

Long stroke

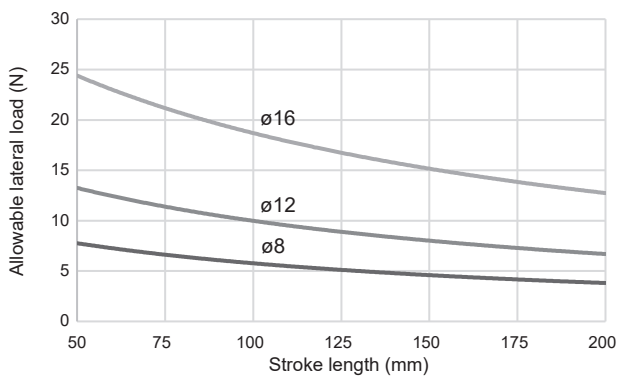
Allowable lateral load Metal bush bearing

W_{max}: Lateral load (N)
L: Load center of gravity position (mm)



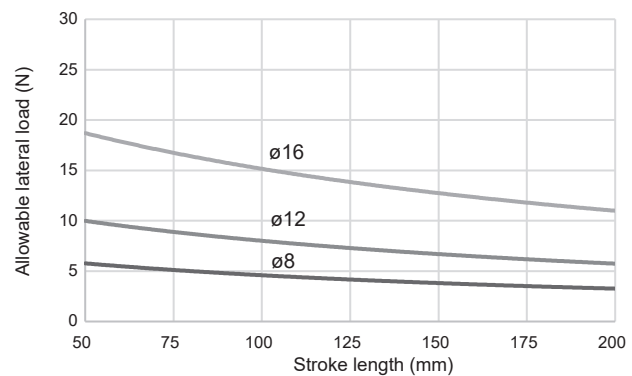
When L = 50 mm

STL-M-8 to 16

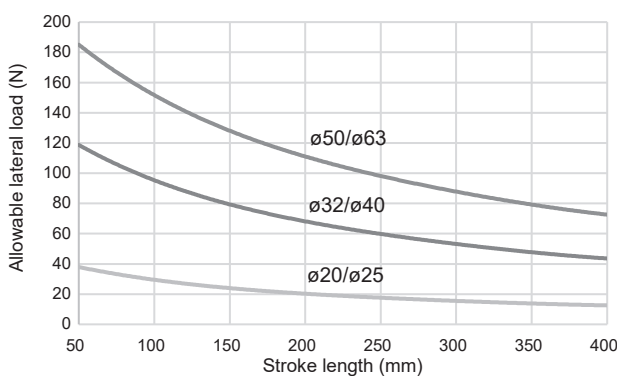


When L = 100 mm

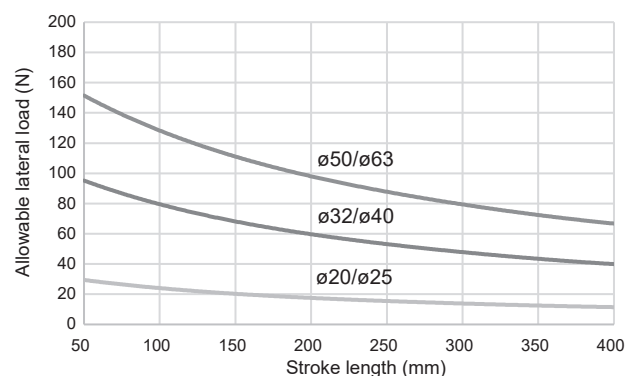
STL-M-8 to 16



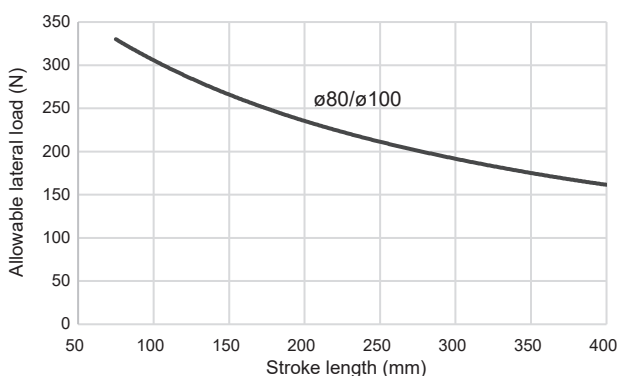
STL-M-20 to 63



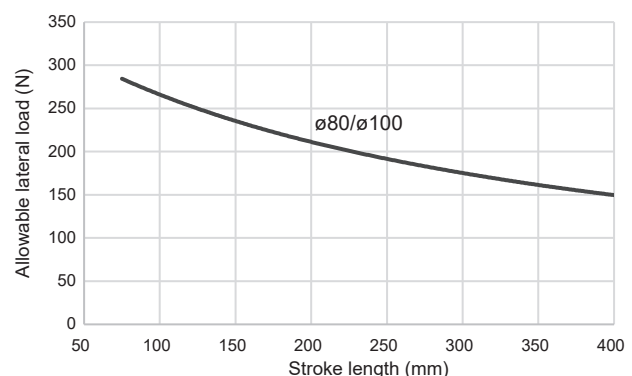
STL-M-20 to 63



STL-M-80/100



STL-M-80/100



* 1: When operating the unit under a load, calculate the allowable lateral load using the two equations below.

[Corrosion-resistant] Catalog allowable lateral load value x 0.6

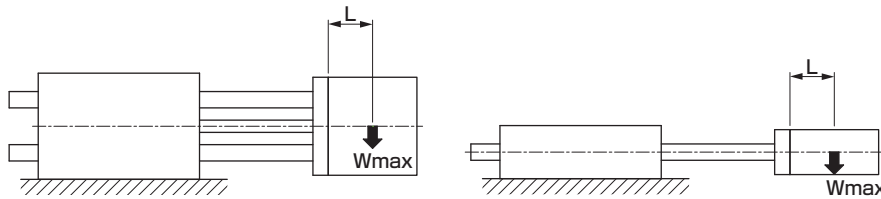
[Optional variations other than the above] Catalog allowable lateral load value x 0.9

2: When designing, be sure to consider the safety factor according to the operating conditions.

- LCM
- LCR
- LCC
- LCW
- LCX
- STM
- STG
- STS/STL
- STR2
- UCA2
- ULK*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3*
- NHS
- HRL
- LN
- Hand
- Chuk
- MechHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending

Long stroke

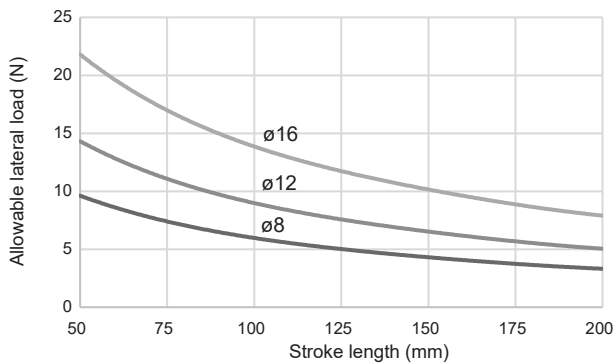
Allowable lateral load Ball bearing



Wmax: Lateral load (N)
L: Load center of gravity position (mm)

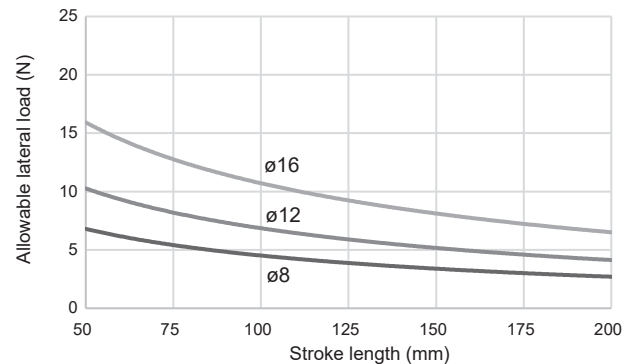
● L=50mm For

STL-B-8 to 16

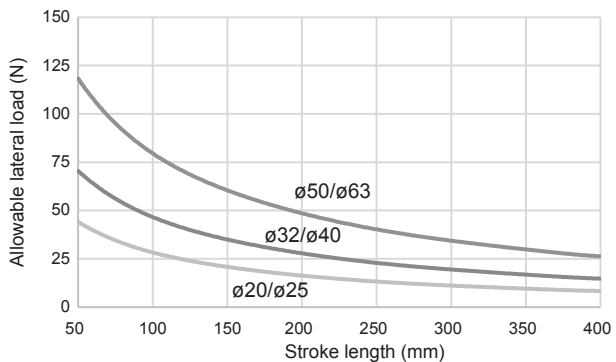


● For L=100mm

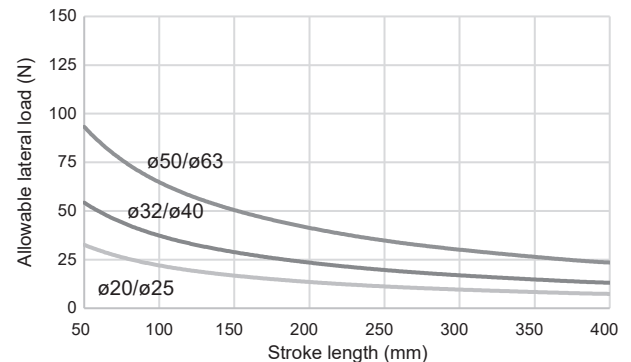
STL-B-8 to 16



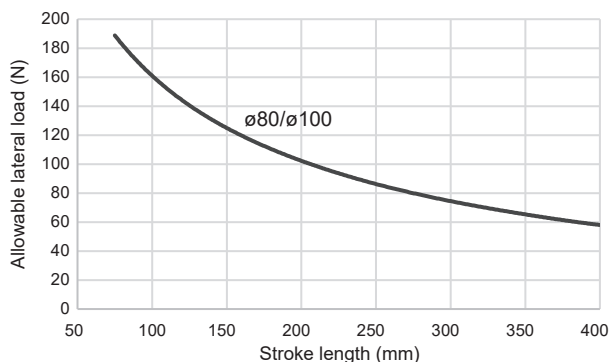
STL-B-20 to 63



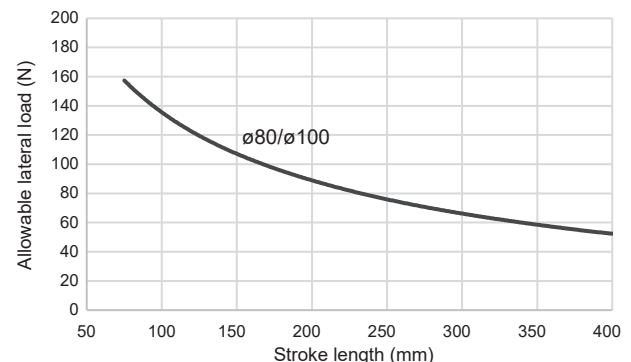
STL-B-20 to 63



STL-B-80/100



STL-B-80/100



* 1: When operating the unit under a load, calculate the allowable lateral load using the two equations below.
 [Corrosion-resistant] Catalog allowable lateral load value x 0.6
 [Optional variations other than the above] Catalog allowable lateral load value x 0.9
 2: When designing, be sure to consider the safety factor according to the operating conditions.

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending