

## Cylinders Series QC

Double-acting, magnetic piston, guided  
 ø20 - 25 - 32 - 40 - 50 - 63

The Series QC compact cylinders have been designed to be used in applications where space is limited and when the load must be guided to prevent rotation.

These cylinders are available in two versions, one with sintered bronze bushes (model QCT) and the other with linear ball bearings (model QCB).

The QCT version would normally be selected when the side loads applied to the cylinder are high.

Model QCB cylinders are suitable for high precision and fast cycling applications.

Both models are equipped with fixed cushioning to prevent direct impact with the end covers. The design of the cylinder body allows the mounting of the cylinder using either top, bottom or side faces.

Several "T" shaped grooves in two faces allow sensors to be fitted in a number of positions.



▶ **Magnetic sensors**  
 can be mounted on both sides

▶ **Ball bearing guide**  
 and bronze bushings

▶ **Movement and guidance**  
 in one unit



A T O R S

**GENERAL DATA**

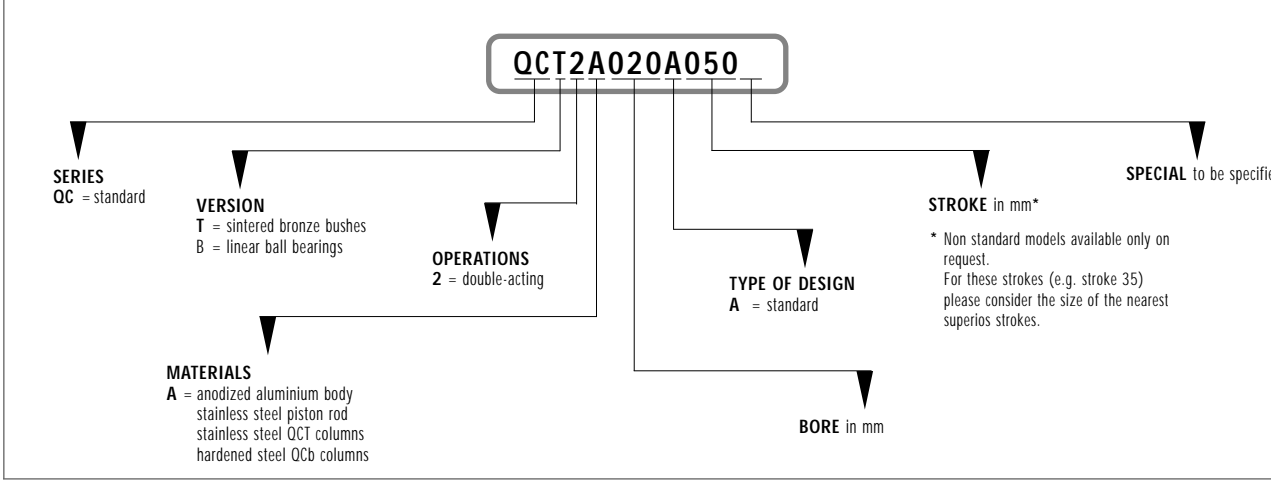
Type of construction	compact guided QCT = sintered bronze bushes QCB = linear ball bearings
Operation	double-acting
Materials	anodized aluminium body - steel front mounting plate - stainless steel piston rod stainless steel columns (QCT) - hardened steel columns (QCB)
Type of construction	compact guided QCT = sintered bronze bushes QCB = linear ball bearings
Operation	double-acting
Materials	anodized aluminium body - steel front mounting plate - stainless steel piston rod stainless steel columns (QCT) - hardened steel columns (QCB)
Speed	50 ÷ 500 mm/s
Stroke end	extended stroke - fixed mechanical cushioning* retracted stroke - fixed mechanical cushioning*

\*we recommend preventing the piston from striking against the end covers.

**PNEUMATIC DATA**

Operating pressure	1 ÷ 10 Bar
Fluid	clean air, lubricated and non lubricated

**CYLINDER CODING**



**TABLE SHOWING THE STANDARD STROKES FOR DOUBLE-ACTING CYLINDERS SERIES QC**

■ Double-acting

Series	ø	standard strokes										
		20	25	30	40	50	75	100	125	150	175	200
QC	20	■		■	■	■	■	■	■	■	■	■
QC	25	■		■	■	■	■	■	■	■	■	■
QC	32		■		■	■	■	■	■	■	■	■
QC	40		■		■	■	■	■	■	■	■	■
QC	50		■		■	■	■	■	■	■	■	■
QC	63		■		■	■	■	■	■	■	■	■

**Note:** Non standard models available only on request.  
For these strokes (e.g. stroke 35) please consider the size of the nearest superior strokes.

TABLE OF PERMISSABLE LOADS (F) - FOR SINTERED BRONZE BUSHES (QCT) - FOR LINEAR BALL BEARINGS (QCB)

F (N) 1N = 0.102kgf

mm	Mod.	STROKE (mm)										
		20	25	30	40	50	75	100	125	150	175	200
20	QCT	100		93	81	73	114	93	98	85	75	67
	QCB	110		100	125	121	90	86	69	58	49	43
25	QCT	140		120	115	103	165	135	150	131	116	104
	QCB	142		85	154	148	106	82	97	81	70	61
32	QCT		253			214	225	208	225	198	176	159
	QCB		222			91	167	129	145	122	104	90
40	QCT		251			197	215	206	224	196	175	157
	QCB		221			93	167	128	145	121	104	90
50	QCT		317			273	267	299	257	225	200	179
	QCB		203			152	161	193	156	130	110	95
63	QCT		316			273	267	299	257	225	200	179
	QCB		201			151	158	195	157	130	110	94

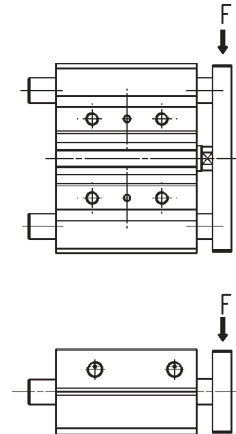
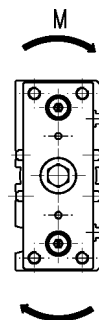


TABLE OF PERMISSABLE MOMENTS (M) - FOR SINTERED BRONZE BUSHES (QCT) - FOR LINEAR BALL BEARINGS (QCB)

M (N\*m) 1N\*m = 0,102kgf\*m

ø mm	Mod.	STROKE (mm)										
		20	25	30	40	50	75	100	125	150	175	200
20	QCT	1,7		1,5	1,2	1,0	2,9	2,8	2,6	2,3	2,0	1,8
	QCB	3,0		2,7	3,4	3,3	2,4	2,3	1,9	1,6	1,3	1,2
25	QCT	3,4		2,9	3,6	3,3	4,2	4,3	3,8	3,2	2,7	2,3
	QCB	3,5		2,7	4,9	4,7	3,4	2,6	3,1	2,6	2,2	2,0
32	QCT		6,7			6,5	7,2	7,0	6,6	5,6	4,8	4,1
	QCB		6,3			3,6	6,5	5,1	5,7	4,8	4,1	3,5
40	QCT		8,7			7,3	9,2	8,8	9,6	8,4	7,5	6,7
	QCB		8,5			4,0	7,2	5,5	6,2	5,2	4,5	3,9
50	QCT		15,4			12,9	12,6	13,4	12,1	11,3	10,1	9,8
	QCB		11,1			8,3	8,8	10,6	8,6	7,1	6,0	5,2
63	QCT		15,1			14,3	16,6	17	14	11,3	9,7	9,1
	QCB		8,3			7,2	9,8	12,1	9,7	8,1	6,8	5,8



VALUES FOR DIMENSIONS L3 AND B, MOD. QCT

ø	QCB				QCT			
	Strokes L3			øC	Strokes B			
	20-30	40-100	125-200		20-30	40-100	125-200	
20	72	75	85	10	19	22	32	
25	74,5	85,5	98	12	21	32	44,5	
	25-50	75-100	125-200		25-50	75-100	125-200	
32	86	95	110	16	26,5	35,5	50,5	
40	86	95	110	16	20	29	44	
	25-75	100-200			25-75	100-200		
50	93		112	20	21		40	
63	93		112	20	16		35	

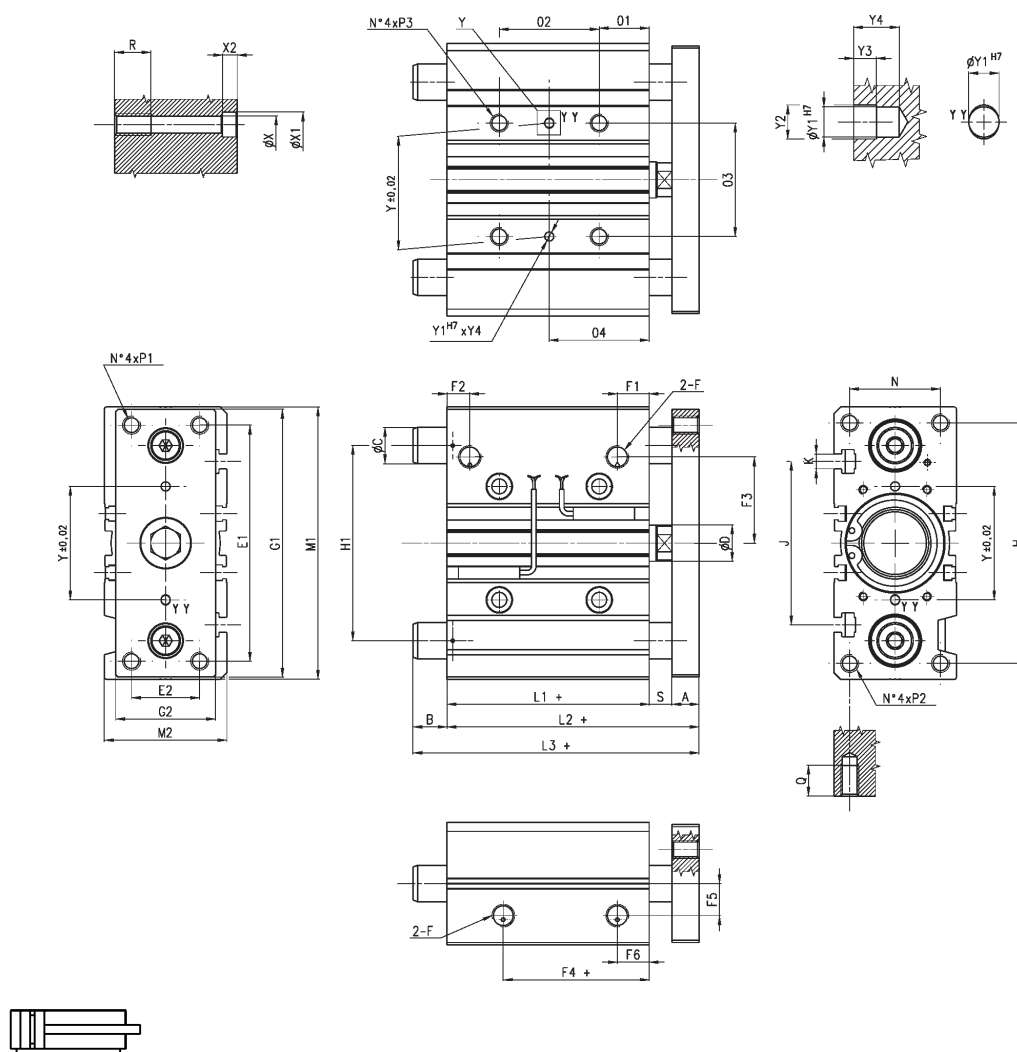
ø	QCB				QCT			
	Strokes L3			øC	Strokes B			
	20-50	75-200			20-50	75-200		
20	74,5	79,5	12	21,5	26,5			
	20	30-50	75-200	20	30-50	75-200		
25	74,5	80,5	16	21	27	31,5		
	25	50-200		25	50-200			
32	73,5	91,5	20	14	32			
40	73,5	91,5	20	7,5	25,5			
	25-200			25-200				
50	98,5	25	26,5					
63	98,5	25	21,5					



VALUES FOR DIMENSIONS 02 AND 04 SERIES QC

ø	Strokes 02			Strokes 04		
	20-30	40-100	125-200	20-30	40-100	125-200
20	24	44	120	29	39	77
25	24	44	120	29	39	77
32	24	48	124	33	45	83
40	24	48	124	34	46	84
50	24	48	124	36	48	86
63	28	52	128	38	50	88

Cylinder Series QC



DIMENSIONS

ø	A	øD	E1	E2	F	F1	F2	F3	F4	F5	F6	G1	G2	H	H1	L1	L2	M1	M2	N	01	03	P1/P2	P3	Q	R	S	Y	Y1	Y2	Y3	Y4	X	X1	X2	J	K
20	10	10	70	18	G1/8	10,5	10,5	25	12,5	11,5	10,5	81	30	72	54	37	53	83	36	24	17	28	M5x0,8	M6x1	13	12	6	28	3	3,5	3	6	5,5	9,5	5,5	44	M5
25	10	12	78	26	G1/8	11,5	8	28,5	12,5	13,5	11,5	91	40	82	64	37,5	53,5	93	42	30	17	34	M6x1	M6x1	15	12	6	34	4	4,5	3	6	5,5	9,5	5,5	50	M5
32	12	16	96	30	G1/8	12,5	9,5	34	7	15	12,5	110	45	98	78	37,5	59,5	112	48	34	21	42	M8x1,25	M8x1,25	20	16	10	42	4	4,5	3	6	6,5	11	7,5	63	M6
40	12	16	104	30	G1/8	13	12	38	13	18	13	118	45	106	86	44	66	120	54	40	22	50	M8x1,25	M8x1,25	20	16	10	50	4	4,5	3	6	6,5	11	7,5	72	M6
50	15	20	130	40	G1/4	14	11	47	9	21,5	12	146	60	130	110	44	72	148	64	46	24	66	M10x1,5	M10x1,5	22	20	13	66	5	6	4	8	8,5	14	9	92	M8
63	15	20	130	50	G1/4	14,5	11,4	55	14	28	14,5	158	70	142	124	49	77	162	78	58	24	80	M10x1,5	M10x1,5	22	20	13	80	5	6	4	8	8,5	14	9	110	M10

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## Slide Units Series QCTF - QCBF

NEW

Double -acting , magnetic piston, with double bearings and flanges  
 ø20 - 25 - 32 - 40.

The Slide Units Series QCTF - QCBF are available in four different sizes and have been designed to be used in applications where space is limited and when the load must be guided.

Regarding the bearings, the Slide Units are available in two versions, one with double sintered bronze bushes (Mod. QCTF) and the other with double linear ball bearings (Mod. QCBF).

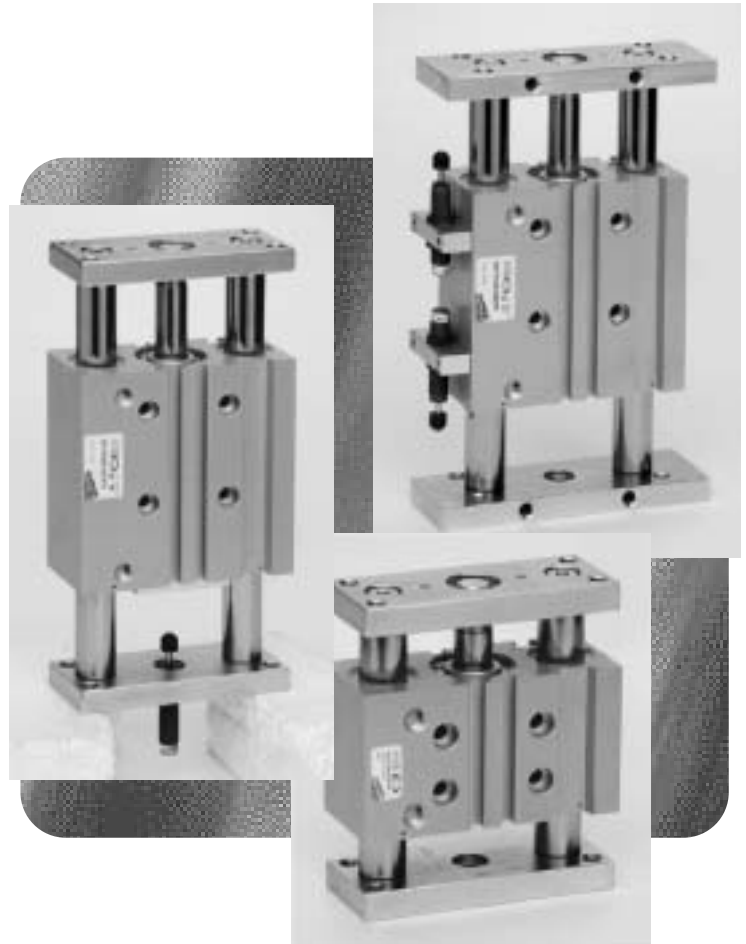
The QCTF version would normally be selected when the side loads applied to the slide unit are high. Model QCBF slide units are suitable for fast cycles (less side load) and higher precision.

Regarding the end cushion: The Slide Units Series QCTF - QCBF are available in three different variants:

- A. fixed mechanical cushion (standard),
- B. with two shock absorbers located on the body and
- C. with one shock absorber located central on the rear flange.

Accordingly, the variant B and C are ore suitable for handling of higher mass forces and / or when it's necessary to adjust the stroke. The design of the Slide Unit body allows the mounting of the Slide Unit using either top, bottom or side faces.

Several "T" shaped grooves in two faces allow magnetic sensors Mod. CST to be fitted in a number of positions



A C T U A

- ▶ Flexible mounting
- ▶ Movement and guidance in one unit
- ▶ Double bearings



A T O R S

**GENERAL DATA**

Type of construction	compact guided with extended guide rods and double bearings/flanges QCTF = sintered bronze bushes QCBF = linear ball bearings
Operation	double acting
Materials	anodized aluminium body - flanges in steel - piston rod in stainless steel rolled stainless steel shafts (QCTF), hardened stainless steel shafts (QCBF)
Mounting	threaded and non threaded holes in the body
Strokes	standard (see table)
Bore	Dia. 20 - 25 - 32 - 40
Ports	G1/8
Assembly position	Any position
Operating temperature	0°C to +80°C (with dry air -20°C)
Speed	50 ÷ 500 mm/s
Stroke end cushioning Type A	extended stroke - fixed mechanical cushioning* retraced stroke - fixed mechanical cushioning*
Stroke end cushioning Type B	extended stroke - shock absorber retraced stroke - shock absorber
Stroke end cushioning Type C	extended stroke - shock absorber retraced stroke - fixed mechanical cushioning*

\* we recommend preventing the piston from striking against the end covers.

**PNEUMATIC DATA**

Operating pressure	1 - 10 bar
Fluid	Clean air, lubricated and non lubricated

**CODING OF CYLINDERS SERIES QCTF AND QCBF**

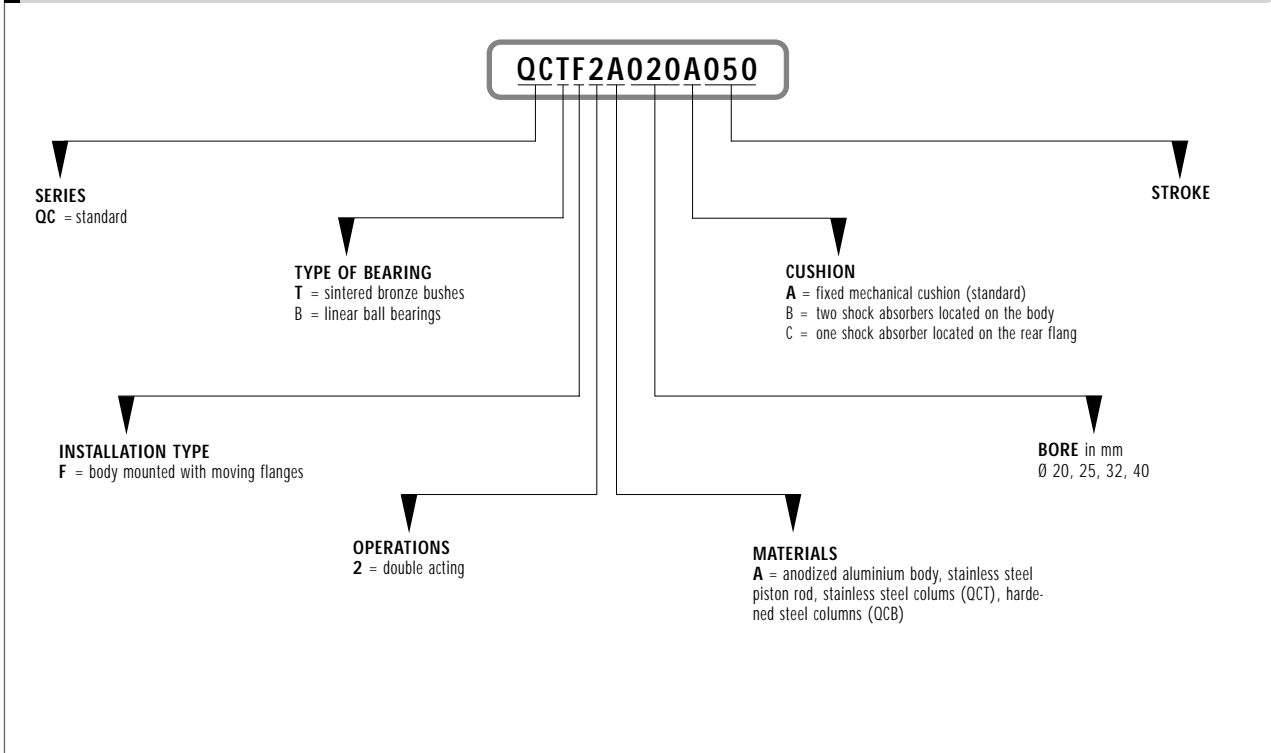


TABLE SHOWING STANDARD STROKES FOR SERIES QCTF AND QCBF

- Double acting
- ✕ Double acting cushioning Type B

table showing standard strokes on stock												
Series	∅	20	25	30	40	50	75	100	125	150	175	200
QCTF-QCBF	20	■		■	■	■	■ ✕	■ ✕	■ ✕	■ ✕	■ ✕	■ ✕
QCTF-QCBF	25	■		■	■	■	■ ✕	■ ✕	■ ✕	■ ✕	■ ✕	■ ✕
QCTF-QCBF	32		■			■	■ ✕	■ ✕	■ ✕	■ ✕	■ ✕	■ ✕
QCTF-QCBF	40		■			■	■ ✕	■ ✕	■ ✕	■ ✕	■ ✕	■ ✕

N.B.: Non standard models available only on request.  
For these strokes (e.g. stroke 35) please consider the size of the nearest superior strokes

TABLE OF PERMISSIBLE LOADS (F1) FROM ONE FLANGE - FOR SINTERED BRONZE BUSHES (QCTF) - FOR LINEAR BALL BEARINGS (QCBF)

F1 (N) 1N = 0.102kgf

		STROKE (mm)										
∅ mm	Mod.	20	25	30	40	50	75	100	125	150	175	200
20	QCTF	136		124	124	123	122	122	121	121	120	120
	QCBF	146		142	140	139	137	136	134	94	70	53
25	QCTF	181		167	165	164	163	162	161	160	159	158
	QCBF	171		167	165	163	161	160	160	159	142	109
32	QCTF		174			166	162	160	158	156	155	153
	QCBF		220			214	211	211	210	210	209	209
40	QCTF		189			175	168	164	161	159	157	155
	QCBF		228			219	214	214	212	212	211	210

NB: As for the second flange, refer to the same values.

Maximum permissible loads of the flanges of the cushioning cylinder type B and C

- ∅20 - 6,5 Kg (sum of the loads on the loads)
- ∅25 - 10 Kg (sum of the loads on the loads)
- ∅32 - 26 Kg (sum of the loads on the loads)
- ∅40 - 37 Kg (sum of the loads on the loads)

NB: Always verify with the table for the permissible loads supported by the flanges.

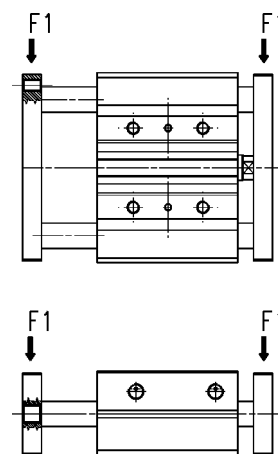
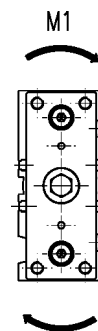


TABLE OF PERMISSIBLE MOMENTS (M1) FROM ONE FLANGE - FOR SINTERED BRONZE BUSHES (QCTF) - FOR LINEAR BALL BEARINGS (QCBF)

M1 (N\*m) 1N\*m = 0,102kgf \* m

		STROKE (mm)										
∅ mm	Mod.	20	25	30	40	50	75	100	125	150	175	200
20	QCTF	3,6		3,3	3,3	3,3	3,2	3,2	3,2	3,2	3,2	3,2
	QCBF	3,9		3,7	3,7	3,7	3,6	3,6	3,6	2,5	1,89	1,4
25	QCTF	5,7		5,2	5,2	5,2	5,2	5,1	5,1	5,1	5	5
	QCBF	5,4		5,2	5,2	5,2	5,1	5,1	5,1	5	4,5	3,4
32	QCTF		6,7			6,4	6,3	6,2	6,1	6	6	5,9
	QCBF		8,5			8,3	8,2	8,2	8,1	8,1	8,1	8,1
40	QCTF		8,1			7,5	7,2	7	6,9	6,8	6,7	6,6
	QCBF		9,8			9,4	9,2	9,2	9,1	9,1	9	9

NB: As for the second flange, refer to the same values.

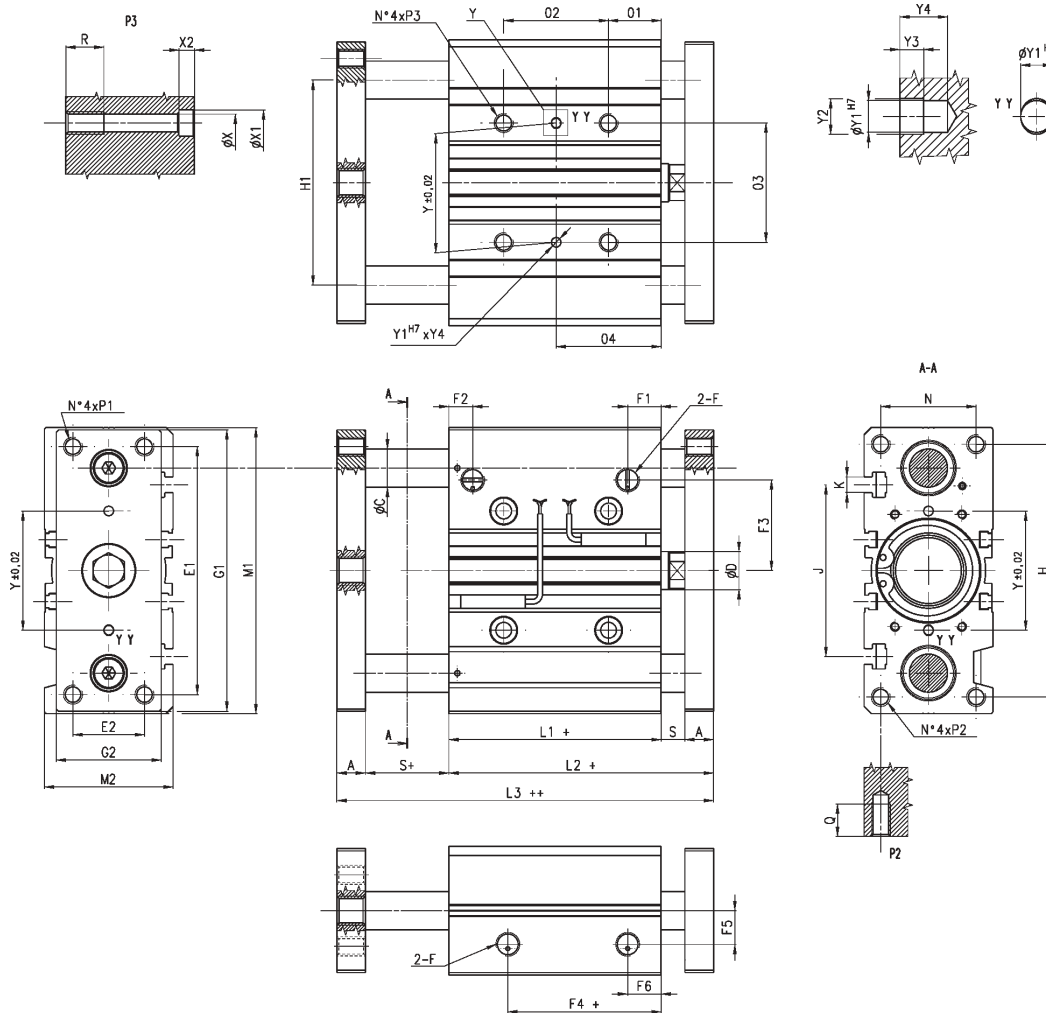


VALUES FOR DIMENSIONS ØC 02 AND 04 SERIES QCTF AND QCBF

∅	Strokes 02			Strokes 04			QCBF		QCTF	
	20-30	40-100	125-200	20-30	40-100	125-200	∅	∅C	∅	∅C
20	24	44	120	29	39	77	20	10	20	10
25	24	44	120	29	39	77	25	12	25	12
32	24	48	124	33	45	83	32	16	32	20
40	24	48	124	34	46	84	40	16	40	20



Mod. QCTF2A...A... and QCBF2A...A...



DIMENSIONS																				
ø	A	øD	E1	E2	F	F1	F2	F3	F4	F5	F6	G1	G2	H	H1	L1	L2	L3	M1	M2
20	10	10	70	18	1/8	10,5	10,5	25	12,5	11,5	10,5	81	30	72	54	37	53	69	83	36
25	10	12	78	26	1/8	11,5	8	28,5	12,5	13,5	11,5	91	40	82	64	37,5	53,5	69,5	93	42
32	12	16	96	30	1/8	12,5	9,5	34	7	15	12,5	110	45	98	78	37,5	59,5	81,5	112	48
40	12	16	104	30	1/8	13	12	38	13	18	13	118	45	106	86	44	66	88	120	54

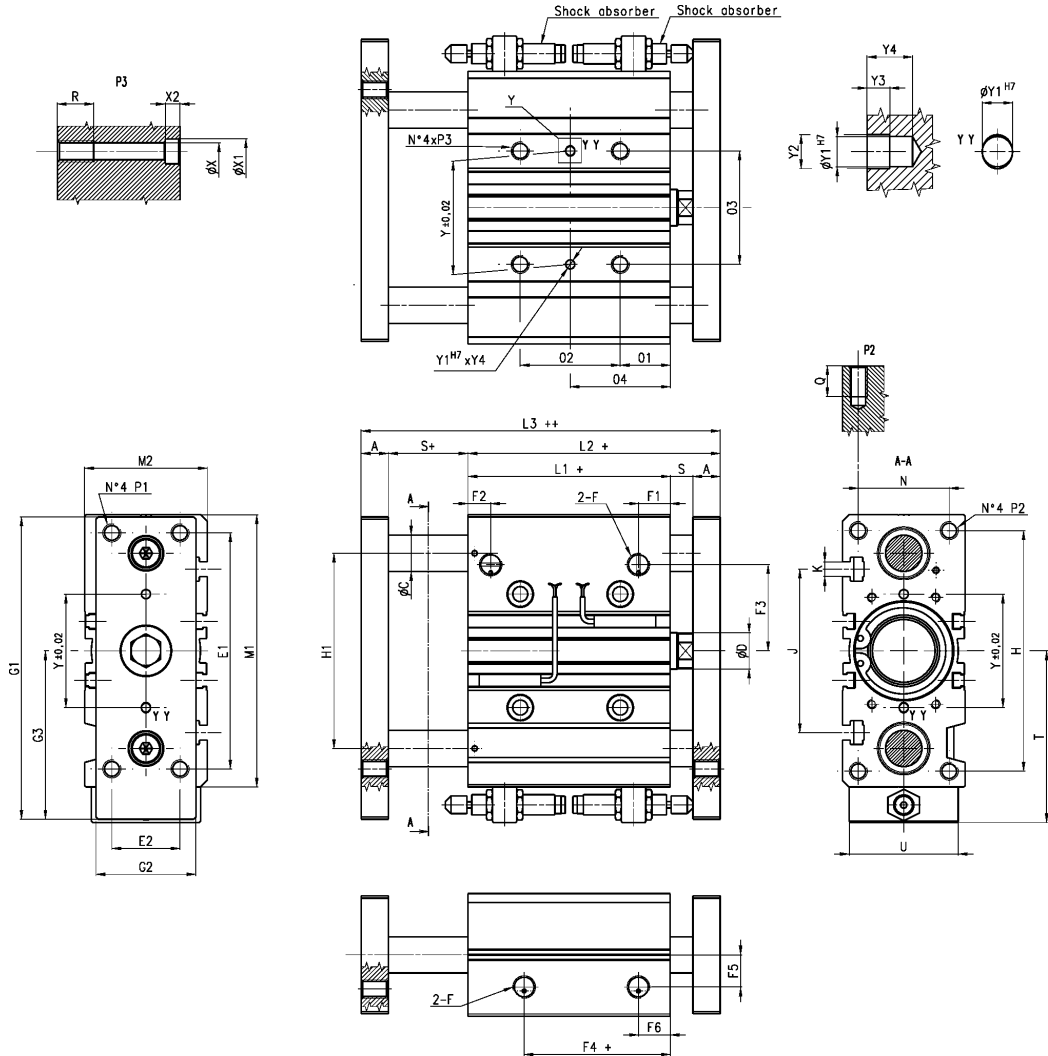
ø	N	O1	O3	P1/P2	P3	Q	R	S	Y	Y1	Y2	Y3	Y4	X	X1	X2	J	K
20	24	17	28	M5x0,8	M6x1	13	12	6	28	3	3,5	3	6	5,5	9,5	5,5	44	M5
25	30	17	34	M6x1		15	12	6	34	4	4,5	3	6	5,5	9,5	5,5	50	M5
32	34	21	42	M8x1,25		20	16	10	42	4	4,5	3	6	6,5	11	7,5	63	M6
40	40	22	50	M8x1,25		20	16	10	50	4	4,5	3	6	6,5	11	7,5	72	M6

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A T O R S

Mod. QCTF2A...B... and QCBF2A...B...



Technical characteristics of the adjustment mechanism of the cylinder's stroke

Cylinder's diameter	ø20	ø25	ø32	ø40
Shock Absorber	SA-1007	SA-1007	SA-1412	SA-1412
Maximum energy absorbed by cycle	6	6	20	20
Maximum energy absorbed by hour Etc (Nm)	12400	12400	33000	33000
Adjustment range cylinder's stroke (mm)	0 - 15	0 - 15	0 - 20	0 - 20

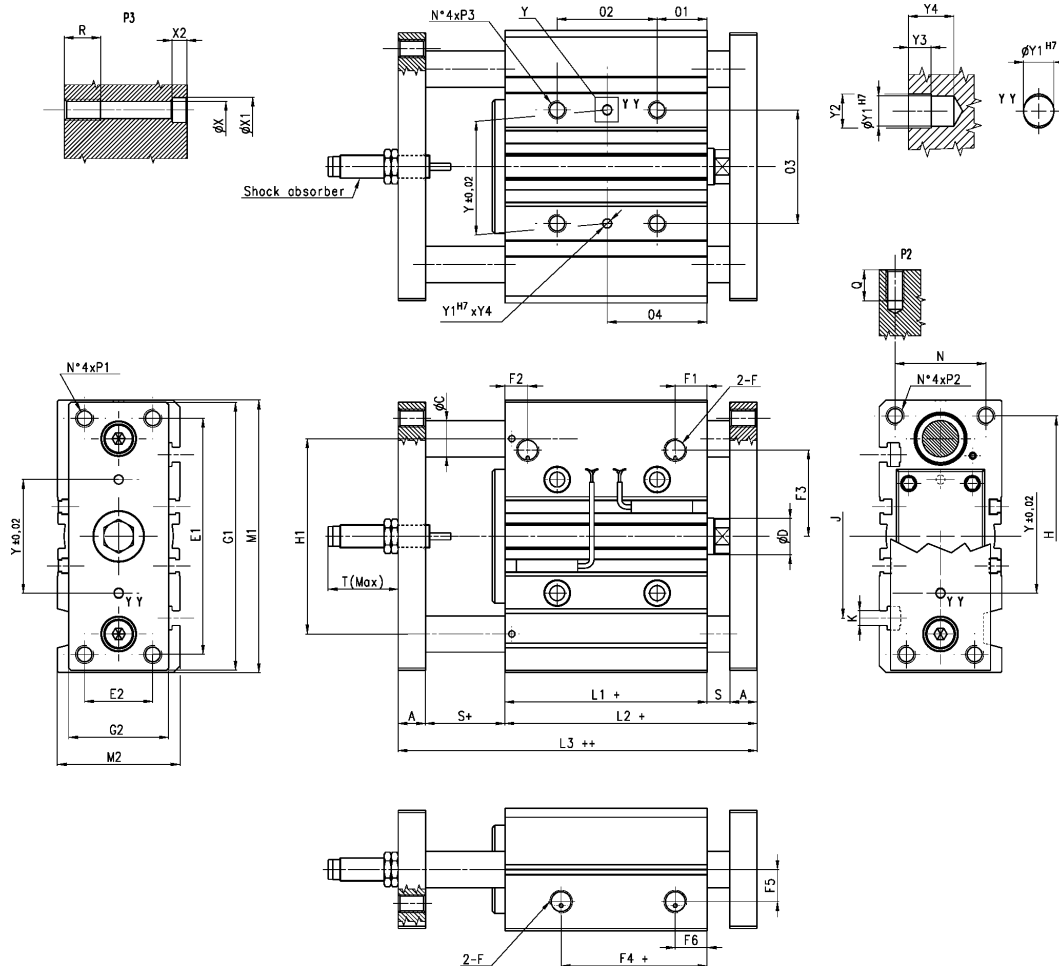
DIMENSIONS

ø	A	øD	E1	E2	F	F1	F2	F3	F4	F5	F6	G1	G2	G3	H	H1	L1	L2	L3	M1	M2	N
20	10	10	70	18	1/8	10,5	10,5	25	12,5	11,5	10,5	97	30	56,5	72	54	37	53	69	83	36	24
25	10	12	78	26	1/8	11,5	8	28,5	12,5	13,5	11,5	107	40	61,5	82	64	37,5	53,5	69,5	93	42	30
32	12	16	96	30	1/8	12,5	9,5	34	7	15	12,5	134	45	79	98	78	37,5	59,5	81,5	112	48	34
40	12	16	104	30	1/8	13	12	38	13	18	13	141	45	82	106	86	44	66	88	120	54	40

ø	O1	O3	P1/P2	P3	Q	R	S	T	U	Y	Y1	Y2	Y3	Y4	X	X1	X2	J	K	shock absorber
20	17	28	M5x0,8	M6x1	13	12	6	57,5	32	28	3	3,5	3	6	5,5	9,5	5,5	44	M5	SA-1007
25	17	34	M6x1		15	12	6	62,5	38	34	4	4,5	3	6	5,5	9,5	5,5	50	M5	SA-1007
32	21	42	M8x1,25		20	16	10	81	44	42	4	4,5	3	6	6,5	11	7,5	63	M6	SA-1412
40	22	50	M8x1,25		20	16	10	85	44	50	4	4,5	3	6	6,5	11	7,5	72	M6	SA-1412



Mod. OCTF2A...C... and QCBF2A...C...



Technical characteristics of the adjustment mechanism of the cylinder's stroke

Cylinder's diameter	ø20	ø25	ø32	ø40
Shock Absorber	SA-1007-W	SA-1007-W	SA-1412-W	SA-1412-W
Maximum energy absorbed by cycle	6	6	20	20
Maximum energy absorbed by hour Etc (Nm)	12400	12400	33000	33000
Adjustment range cylinder's stroke (mm)	0 a 25	0 a 25	0 a 35	0 a 35

DIMENSIONS

ø	A	øD	E1	E2	F	F1	F2	F3	F4	F5	F6	G1	G2	H	H1	L1	L2	L3	M1	M2	N
20	10	10	70	18	1/8	10,5	10,5	25	12,5	11,5	10,5	81	30	72	54	37	53	69	83	36	24
25	10	12	78	26	1/8	11,5	8	28,5	12,5	13,5	11,5	91	40	82	64	37,5	53,5	69,5	93	42	30
32	12	16	96	30	1/8	12,5	9,5	34	7	15	12,5	110	45	98	78	37,5	59,5	81,5	112	48	34
40	12	16	104	30	1/8	13	12	38	13	18	13	118	45	106	86	44	66	88	120	54	40

ø	Ø1	Ø3	P1/P2	P3	Q	R	S	T(max)	Y	Y1	Y2	Y3	Y4	X	X1	X2	J	K	shock absorber
20	17	28	M5x0,8	M6x1	13	12	6	37	28	3	3,5	3	6	5,5	9,5	5,5	44	M5	SA-1007 W
25	17	34		M6x1	15	12	6	37	34	4	4,5	3	6	5,5	9,5	5,5	50	M5	SA-1007 W
32	21	42		M8x1,25	20	16	10	55	42	4	4,5	3	6	6,5	11	7,5	63	M6	SA-1412 W
40	22	50		M8x1,25	20	16	10	55	50	4	4,5	3	6	6,5	11	7,5	72	M6	SA-1412 W

The company reserves the right to vary models and dimensions without notice. These products are designed for industrial applications and are not suitable for sale to the general public.



A T O R S