

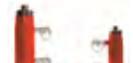
F.P.T. / HYDRAULIC CYLINDERS

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HYDRAULIC CYLINDERS



01/

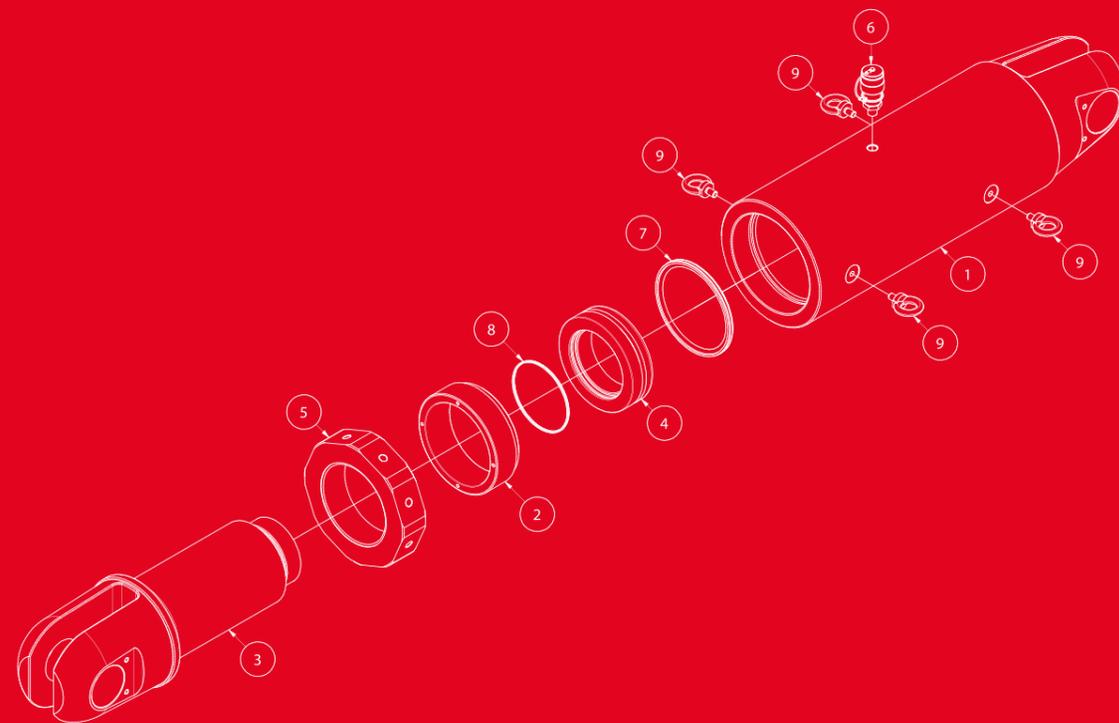
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F.P.T. / HYDRAULIC CYLINDERS

Hydraulic cylinders are a very important component of the hydraulic circuit. Entirely designed and manufactured by F.P.T. in various types they can be used in different fields of application. Type of cylinder and specific applications determine different constructive methodologies.

FOR HARSH ENVIRONMENTS ANTI-CORROSIVE TREATMENT - NITOX ONC

The NITOX - ONC treatment is the modern combination of proven NITREG® technology of nitriding gas with controlled potential and a subsequent stage of oxidation followed by a sealing process using a liquid inhibitor of corrosion. It gives the surface a uniform black color that increases the resistance to corrosion and wear. Salt spray test ASTM-B117 showed corrosion resistance of over 400 hours. High resistance to corrosion, wear and fatigue.

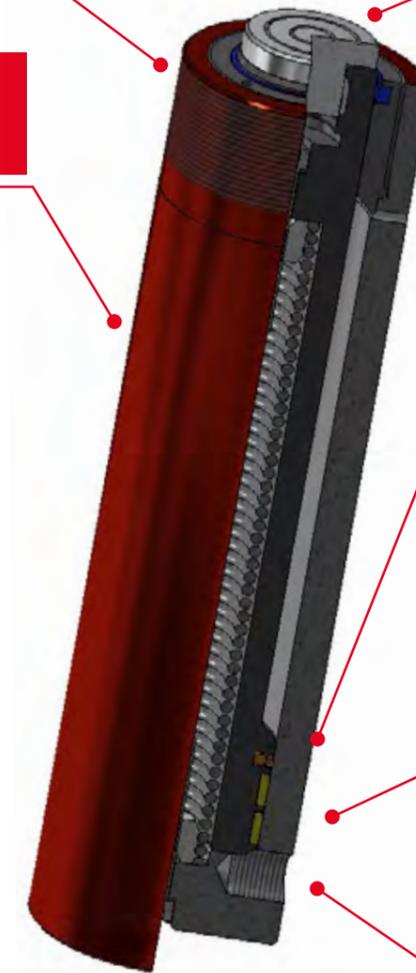


All models with a mass greater than 20 kg are equipped with lifting eyebolts.

Removable high-resistance head, possible tilting saddle for better distribution of the load to be lifted.

Exterior painting for maximum resistance to corrosion and/or Nitox ONC treatment.

Cylinders equipped with high strength seals for maximum durability over time: on request it is possible to equip the cylinder with high-strength gaskets for operative temperatures up to 200 ° C.



The guiding surfaces realized with double bronze ring are sized to guarantee optimal performance in load offset absorption and stop-ring increases safety for the operator avoiding the over stroke of the piston.

Equipped with a 3/8" NPT female coupler with dust cap.

CYLINDER'S CODIFICATION DESCRIPTION

The cylinder's coding table shows the various possibilities in the product line: type of cylinder, the choice of construction materials, the piston stroke, push or pulling capacity and accessories if any.

Series	Material ↑ A – ALUMINIUM S – STAINLESS STEEL	Stroke ↑ STROKE mm	Type
CSE	A	10 100	XP TA
CSE – GRAVITY RETURN CRM – SPRING RETURN CRI-C – OIL RETURN CDE – DOUBLE ACTING		CAPACITY ↓ ton at 700 bars	GS – LOCK NUT XP – EXTRA FLAT FO – HOLLOW TRA – PULLING WITH EYELETS TR – PULLING C – COMPACT
			↑ TA – TILTING SADDLE FS – BALL JOINT



PRODUCT PAGE

The most versatile cylinder for various applications

CUSTOM CYLINDERS ON REQUEST

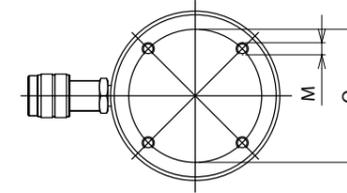


- Single acting cylinders with spring return, high pressure. Push force from 5 to 100 tons with range of strokes from 25 mm to 360 mm.
- Extremely versatile hydraulic cylinders, suitable for various application, for lifting, pressing and pushing.
- The guiding surfaces are sized to guarantee optimal performance in load offset absorption and stop-ring increases safety for the operator avoiding the over stroke of the piston.
- 3/8" NPT female coupler with dust cap equipped, fixing holes on the bottom surface and thread on external section of the body of the cylinder.
- Equipped with high strength gaskets for maximum durability.
- Removable high strength head and possibility of mounting a tilting saddle for better distribution of the load to be lifted.
- External painting and Nitox ONC treatment on all internal mechanical components for maximum resistance against corrosion and wear.
- All models weighing more than 20 kg are equipped with lifting eyebolts.
- Possibility to design and produce custom made hydraulic cylinders on request, with dedicated geometries, performances and features.

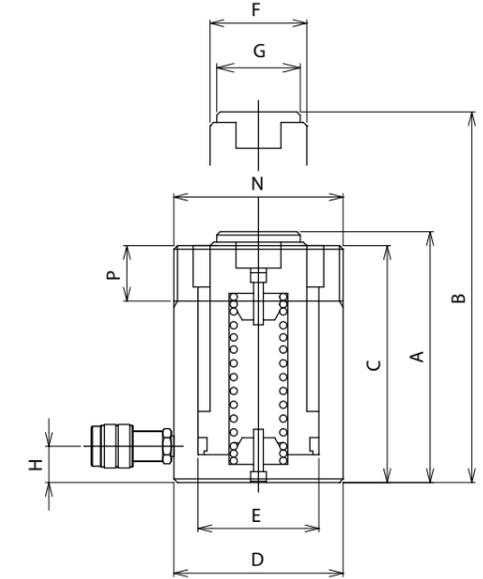
CRM



5-100 ton
Stroke up to 360 mm
700 bar



CRM



CAP/Force ton (kN)	STROKE mm	MODEL	SECTION cm ²	VOLUME cm ³	MASS kg	DIMENSIONS (mm)											
						A	B	C	D	E	F	G	H	O	M	N	P
5 /45	25	CRM-5/25	6,47	16	1,2	115	140	109	38	28,7	25	24,5	19	25	2x 1/4" - 20 UN	1 1/2" - 16 UN	28
	75	CRM-5/75	6,47	49	1,6	165	240	159	38	28,7	25	24,5	19	25	2x 1/4" - 20 UN	1 1/2" - 16 UN	28
	125	CRM-5/125	6,47	81	1,9	215	340	209	38	28,7	25	24,5	19	25	2x 1/4" - 20 UN	1 1/2" - 16 UN	28
	181	CRM-5/175SH	6,47	116	2,1	272	453	266	38	29	25	25	20	25	1/4"-20	1 1/2"-16	28
	232	CRM-5/230SH	6,47	148	2,5	324	556	318	38	28	25	25	20	25	1/4"-20	1 1/2"-16	28
10 /101	25	CRM-10/25	14,44	36	2	97	122	91	57	42,88	38	36	19	39	2x 5/16" - 18 UN	2 1/4" - 14 UN	26
	50	CRM-10/50	14,44	72	2,4	122	172	116	57	42,88	38	36	19	39	2x 5/16" - 18 UN	2 1/4" - 14 UN	26
	100	CRM-10/100	14,44	144	3,2	172	272	166	57	42,88	38	36	19	39	2x 5/16" - 18 UN	2 1/4" - 14 UN	26
	160	CRM-10/160	14,44	231	4,1	232	392	226	57	42,88	38	36	19	39	2x 5/16" - 18 UN	2 1/4" - 14 UN	26
	200	CRM-10/200	14,44	289	5,2	298	498	292	57	42,88	38	36	19	39	2x 5/16" - 18 UN	2 1/4" - 14 UN	26
	260	CRM-10/260	14,44	375	6,1	358	618	352	57	42,88	38	36	19	39	2x 5/16" - 18 UN	2 1/4" - 14 UN	26
	300	CRM-10/300SH	14,44	439	6,8	403	703	397	58	43	38	35	20	40	5/16"-18	2 1/4"-14	30
	356	CRM-10/355SH	14,44	515	7,6	450	806	444	58	43	38	35	20	40	5/16"-18	2 1/4"-14	30
15 /137	50	CRM-15/50	19,63	98	4,4	160	210	150	70	50	40	38	20	48	2x 3/8" - 16 UN	2 3/4" - 16 UN	30
	100	CRM-15/100	19,63	196	5,5	210	310	200	70	50	40	38	20	48	2x 3/8" - 16 UN	2 3/4" - 16 UN	30
	160	CRM-15/160	19,63	314	7	270	430	260	70	50	40	38	20	48	2x 3/8" - 16 UN	2 3/4" - 16 UN	30
	254	CRM-15/260SH	19,63	515	9,1	372	626	362	70	51	41	38	25	48	3/8"-16	2 3/4"-16	30
	356	CRM-15/360SH	19,63	721	11,4	474	830	464	70	51	41	38	25	48	3/8"-16	2 3/4"-16	30
25 /232	25	CRM-25/25	33,18	83	5,5	140	165	131	85	65	55	55	20	58	2x 1/2" - 13 UN	3 5/16" - 12 UN	49
	50	CRM-25/50	33,18	166	6,3	165	215	156	85	65	55	55	20	58	2x 1/2" - 13 UN	3 5/16" - 12 UN	49
	100	CRM-25/100	33,18	332	7,9	215	315	206	85	65	55	55	20	58	2x 1/2" - 13 UN	3 5/16" - 12 UN	49
	160	CRM-25/160	33,18	531	9,8	275	435	266	85	65	55	55	20	58	2x 1/2" - 13 UN	3 5/16" - 12 UN	49
	200	CRM-25/200	33,18	664	11,1	315	515	306	85	65	55	55	20	58	2x 1/2" - 13 UN	3 5/16" - 12 UN	49
	260	CRM-25/260	33,18	863	13	375	635	366	85	65	55	55	20	58	2x 1/2" - 13 UN	3 5/16" - 12 UN	49
	300	CRM-25/300	33,18	995	14,2	415	715	406	85	65	55	55	20	58	2x 1/2" - 13 UN	3 5/16" - 12 UN	49
	362	CRM-25/360SH	33,18	1203	17,4	476	838	467	85	65	57	50	25	59	1/2"-13	3 5/16"-12	49
30 /309	210	CRM-30/210	44,18	928	19	384	594	375	102	75	60	55	46	-	-	3 5/16" - 12 UN	49
50 /496	50	CRM-50/50	70,88	354	16	180	230	175	127	95	80	72	27	95	2x 1/2" - 13 UN	5" - 12 UN	55
	100	CRM-50/100	70,88	709	20	230	330	225	127	95	80	72	27	95	2x 1/2" - 13 UN	5" - 12 UN	55
	160	CRM-50/160	70,88	1134	24	290	450	285	127	95	80	72	27	95	2x 1/2" - 13 UN	5" - 12 UN	55
	337	CRM-50/330SH	70,88	2388	39,5	461	798	456	127	95	80	70	31	95	1/2"-13	5"-12	55
100 /929	100	CRM-100/100	132,73	1327	46	280	380	275	175	130	105	92	40	140	4x 3/4" - 10 UNC	6 7/8" - 12 UN	44
	170	CRM-100/170	132,73	2256	55	350	520	345	175	130	105	92	40	140	4x 3/4" - 10 UNC	6 7/8" - 12 UN	44
	260	CRM-100/260	132,73	3451	67	440	700	435	175	130	105	92	40	140	4x 3/4" - 10 UNC	6 7/8" - 12 UN	44

Different strokes and tonnages available.



PRODUCT PAGE

When being compact is a must

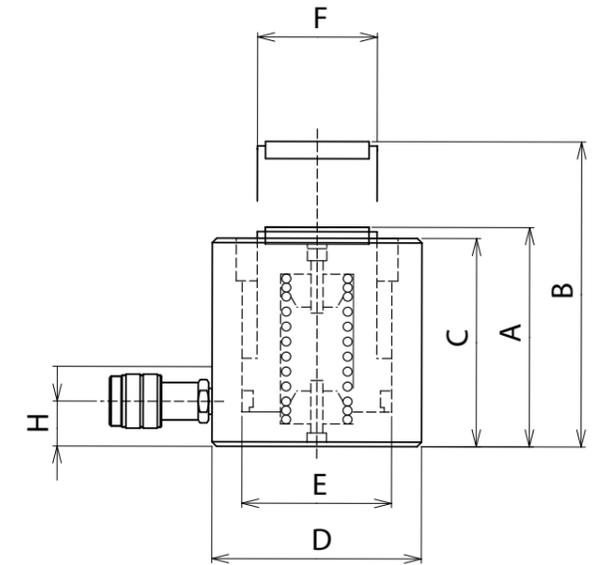
CUSTOM CYLINDERS ON REQUEST



- Hydraulic cylinder, spring return, high pressure. Push force from 10 to 100 ton, stroke 50 mm.
- Lightweight, easy-to-handle cylinders with limited closed height.
- The guiding surfaces are sized to guarantee optimal performance in load offset absorption and stop-ring increases safety for the operator avoiding the over stroke of the piston.
- Equipped with high strength gaskets for maximum durability.
- 3/8" NPT female coupler with dust cap equipped.
- Non removable, high strength saddle, piston embedded.
- Nitox ONC treatment on all mechanical components for maximum resistance against corrosion and wear.
- Possibility to design and produce custom made hydraulic cylinders on request, with dedicated geometries, performances and features.

CRM-C

10-100 ton
Stroke 50 mm
700 bar



CRM-C

CAP/Force ton (kN)	STROKE mm	MODEL	SECTION cm ²	VOLUME cm ³	MASS kg	DIMENSIONS (mm)						
						A	B	C	D	E	F	H
10 /111,3	50	CRM-10/50-C	15,9	79,5	3,2	95	145	94	77	45	35	18
20 /218,2	50	CRM-20/50-C	31,2	155,9	4,7	103	153	102	93	63	50	19
30 /309,3	50	CRM-30/50-C	44,2	220,9	6,9	110	160	108	108	75	60	21
50 /549,8	50	CRM-50/50-C	78,5	392,7	9,7	120	170	118	126	100	80	19
100 /929,1	50	CRM-100/50-C	132,7	663,5	18,8	134	184	132	167	130	110	23

Different strokes and tonnages available.



Series **CRM-XP**

Extra flat, single acting cylinders with spring return



PRODUCT PAGE

Ideal for narrow and confined areas

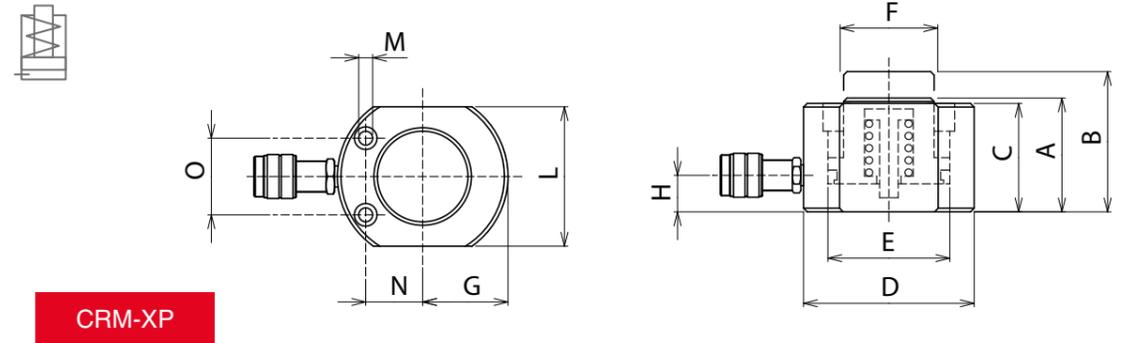
CUSTOM CYLINDERS ON REQUEST



- Extra flat hydraulic cylinders, single acting, spring return, high pressure. Push force from 4,5 to 150 ton, range of strokes from 6 to 15 mm.
- Flat cylinders with extremely reduced closed height, ideal for working in narrow spaces where it would be impossible to use other cylinders.
- The guiding surfaces are sized to guarantee optimal performance in load offset absorption and stop ring increases safety for the operator avoiding the over stroke of the piston.
- Equipped with high-strength gaskets for maximum durability.
- 3/8" NPT female coupler with dust cap equipped.
- Non removable, high strength saddle, piston embedded.
- Nitox ONC treatment on all mechanical components for maximum resistance against corrosion and wear.
- Possibility to design and produce custom made hydraulic cylinders on request, with dedicated geometries, performances and features.

CRM-XP

4,5-150 ton
Stroke 10-15 mm
700 bar



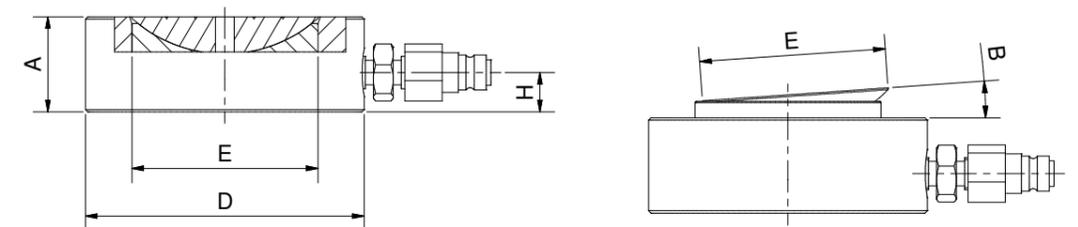
CAP/Force ton (kN)	STROKE mm	MODEL	SECTION cm ²	VOLUME cm ³	MASS kg	DIMENSIONS (mm)											
						A	B	C	D	E	F	O	H	M	N	G	L
4,5 /43,1	6	CRM-5/6-XP	6,2	3,6	1	37	43	36	59	28	24	30	18	5,5	23	23,5	45
4,5 /43,1	15	CRM-5/15-XP	6,2	9,2	1,2	46	61	45	59	28	24	30	18	5,5	23	23,5	45
10 /111,3	10	CRM-10/10-XP	15,9	15,9	1,6	50	60	49	75	45	38	40	19	6,5	28	31,5	60
20 /218,2	10	CRM-20/10-XP	31,2	31,2	3	53	63	52	101	63	50	50	19	11	40	43	86
30 /309,3	10	CRM-30/10-XP	44,2	44,2	4,2	58	68	56	117	75	60	60	20	11	45	51	102
50 /549,8	10	CRM-50/10-XP	78,5	78,5	7,4	64	74	62	147	100	80	70	22	13	58	66	130
75 /791,7	10	CRM-75/10-XP	113,1	113,1	12	70	80	68	177	120	100	90	24	13	68	81	164
100 /1077,6	10	CRM-100/10-XP	153,9	153,9	15,4	77	87	75	192	140	120	90	21	13	76	88,5	178
150 /1496,8	14	CRM-150/14-XP	213,8	299,4	29	104	118	102	227	165	130	130	25	13	80	106	215

Different strokes and tonnages available.



Series **CSE TU**

Super extra flat cylinders, very high pressure – 2.000 bar



CAP/Force ton (kN)	STROKE mm	MODEL	SECTION cm ²	VOLUME cm ³	MASS kg	DIMENSIONS (mm)				
						A	B	D	E	H
100 /1005	10	CSE-100/10-TU	50,3	50	3,6	41	4°	120	80	19
200 /2077	10	CSE-200/10-TU	103,9	104	9,5	50	/	175	115	22

Super extra flat hydraulic cylinders, load return, push force from 100 to 200 tons at 2.000 bar. Used when available height is really minimal, they are suitable for working in such small spaces where it would not be possible to use the CRM XP cylinders.

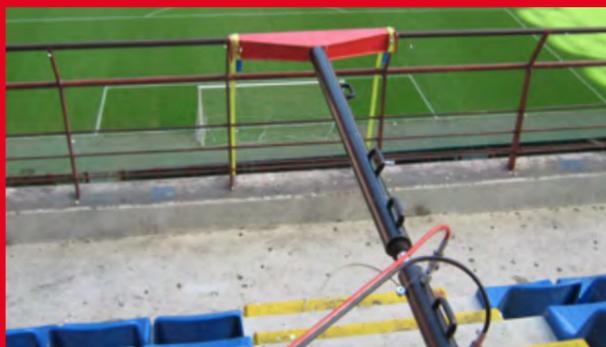
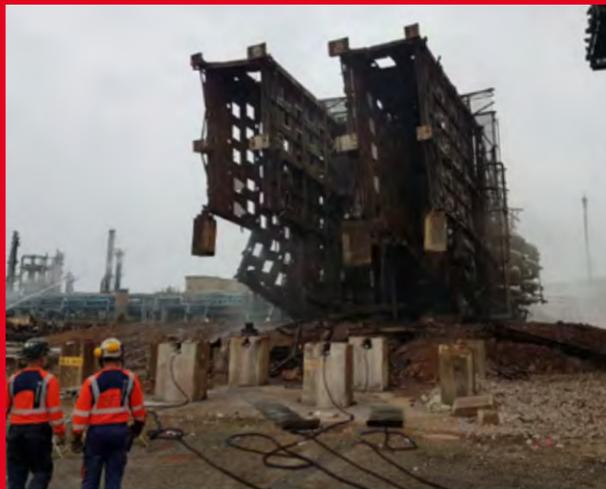


PRODUCT PAGE



Light weight easy to carry

CUSTOM CYLINDERS ON REQUEST

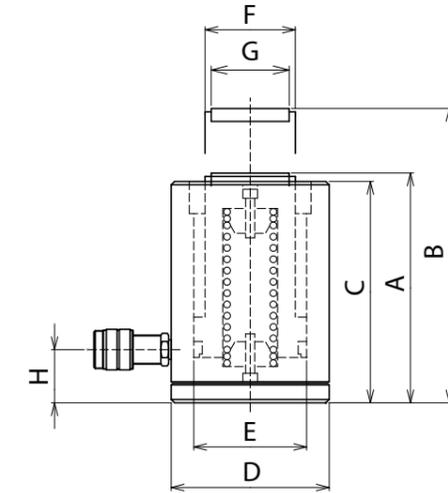


- Hydraulic cylinders, aluminium weight, single acting spring return, high pressure- Push force from 30 to 100 ton with range of strokes from 50 to 100 mm.
- Hydraulic cylinders made of high strength special aluminum alloy, light weight, easy to carry and very easy to handle. Used in applications in which reduced weight is an important factor.
- The guiding surfaces are sized to guarantee optimal performance in load offset absorption and stop-ring increases safety for the operator avoiding the over stroke of the piston.
- Equipped with high strength gaskets for maximum durability.
- 3/8" NPT female coupler with dust cap equipped.
- High strength saddle and possibility of mounting a tilting saddle for better distribution of the load to be lifted.
- The aluminum cylinders are different from those in steel and while offering advantages in terms of weight have a different behavior at fatigue. Hence the aluminum cylinder must not be used in intensive applications.
- All models feature carry handles.
- Possibility to design and produce custom made hydraulic cylinders on request, with dedicated geometries, performances and features.

CRMA



30-100 ton
Stroke 50-150 mm
700 bar



CRMA

CAP/Force ton (kN)	STROKE mm	MODEL	SECTION cm ²	VOLUME cm ³	MASS kg	DIMENSIONS (mm)							
						A	B	C	D	E	F	G	H
30 / 303	50	CRMA-30/50-SH	44,2	221	4,7	181	231	177	100	75	60	40	34
	100	CRMA-30/100-SH				231	331	227					
50 / 487	50	CRMA-50/50-SH	70,9	354	7,6	186	236	182	130	95	80	70	30
	100	CRMA-50/100-SH				236	336	232					
100 / 911	51	CRMA-100/50-SH	132,7	665	16,3	221	272	217	180	130	110	70	46
	102	CRMA-100/100-SH				271	373	267					
	152	CRMA-100/150-SH				321	473	317					

Different strokes and tonnages available.

Different models of aluminium cylinders available

- CSEA series, single acting cylinders, load return
- CSEAGS series, single acting cylinders, load return, with lock nut
- CRIA series, double acting cylinders, oil return
- CRMAFO series, single acting cylinders



PRODUCT PAGE

Pulling force: for structure approach operations

CUSTOM CYLINDERS ON REQUEST



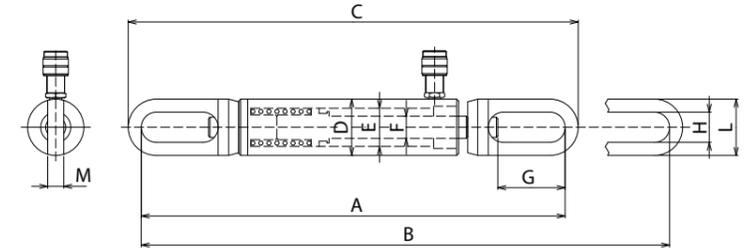
- Single acting, pulling hydraulic cylinders with spring return, high pressure. Pushing force from 2 to 100 tons with range of strokes from 75 mm to 160 mm.
- Cylinders that operate under a pulling force. Ideal for load approach and welding operations in the shipbuilding and heavy structural steelwork sectors.
- The guiding surfaces are sized to guarantee optimal performance in load offset absorption and stop-ring increases safety for the operator avoiding the over stroke of the piston.
- Equipped with high strength gaskets for maximum durability.
- 3/8" NPT female coupler with dust cap equipped. CRM TR cylinders feature a threaded section on the body and piston to fit its accessories: chains, heads and extensions.
- External painting for maximum corrosion resistance or Nitox ONC treatment on all components for the maximum resistance to corrosion and wear.
- All models weighing more than 20 kg are equipped with lifting eyebolts.
- Possibility to design and produce custom made hydraulic cylinders on request, with dedicated geometries, performances and features.

CRM TRA-TR

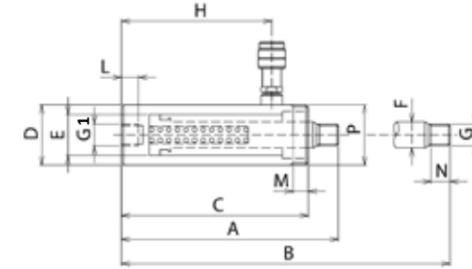
2-60 ton
Stroke 127-155 mm
700 bar



CRM-TRA



CRM-TR



CAP/Force	STROKE	MODEL	SECTION	VOLUME	MASS	DIMENSIONS (mm)									
ton (kN)	mm		cm ²	cm ³	kg	A	B	C	D	E	F	G	H	L	
10 /109	150	CRM-10/150-TRA	15,7	235	14,5	606	756	642	78	55	32	95	42	78	
30 /304,3	155	CRM-30/155-TRA	40,84	648,5	38	810 - 914	965 - 1069	860 - 964	114	85	45	100	54	104	
60 /613,1	155	CRM-60/155-TRA	84,23	1306	92,5	840	995	918	175	125	70	137	62	140	

CAP/Force	STROKE	MODEL	SECTION	VOLUME	MASS	DIMENSIONS (mm)												
ton (kN)	mm		cm ²	cm ³	kg	A	B	C	D	E	F	G	G1	H	L	M	N	P
2 /25	127	CRM-2/127-TR-B-SH	3,6	46	2,9	268	395	236	48	29	19	M16x1,5	3/4" NPT	194	18	25	18	1/2"-16
5 /51	141	CRM-5/140-TR-SH	7,4	104	4,2	303	444	258	57	43	30	M28x1,5	1 1/4" NPT	220	24	25	22	2 1/4"-14
10 /108	151	CRM-10/150-TR-SH	15,7	236	9,5	299	450	259	85	55	32	M30x2	M30x2	221	25	25	25	M85x2

Different strokes and tonnages available.

- The eyelet can be used to adjust the extended and closed heights of the CRM30/75 TRA and CRM 30/155 TRA models.
- Construction on request of forks and pins, protective bellows and connectors or threads based on customer specifications.





PRODUCT PAGE

Cylinders for tensioning operations, maintenance and testing

CUSTOM CYLINDERS ON REQUEST



- Single acting hollow hydraulic cylinders with spring return, high pressure. Push force from 10 to 100 tons with range of strokes from 50 mm to 160 mm.

- Hydraulic cylinders with hollow center suitable for operations of tensioning, maintenance and testing; for cable tensioning operations, positioning bars in tensile structures, pulley assembly and disassembly, and cable and tie rod pulling tests.

- The guiding surfaces are sized to guarantee optimal performance in load offset absorption and stop-ring increases safety for the operator avoiding the over stroke of the piston.

- Equipped with high strength gaskets for maximum durability.

- 3/8" NPT female coupler with dust cap equipped and threaded section on the outer body of the cylinder.

- High strength head.

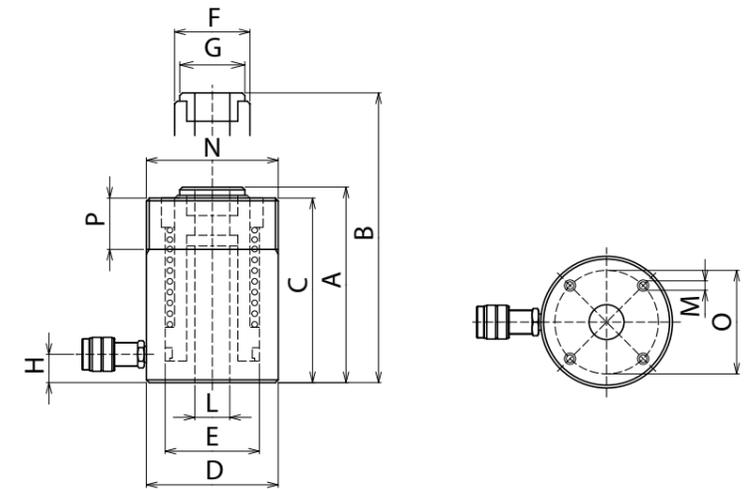
- External painting and Nitox ONC treatment on all mechanical components for maximum resistance against corrosion and wear up to 30 ton models. 60 ton and higher capacity models feature a Nitox ONC treatment on all mechanical parts.

- All models weighing more than 20 kg are equipped with lifting eyebolts.

- Possibility to design and produce custom made hydraulic cylinders on request, with dedicated geometries, performances and features.

CRM-FO

10-100 ton
Stroke 50-160 mm
700 bar



CRM-FO

CAP/Force ton (kN)	STROKE mm	MODEL	SECTION cm ²	VOLUME cm ³	MASS kg	DIMENSIONS (mm)												
						A	B	C	D	E	F	G	H	L	M	N	O	P
10 /116,8	50	CRM-10/50-FO	16,69	83	3,9	143	193	139	75	55	38	34,5	19	19,5	2xM8	M75x2	58	20
	80	CRM-10/80-FO	16,69	134	5	191	271	187	75	55	38	34,5	19	19,5	2xM8	M75x2	58	20
20 /229,9	50	CRM-20/50-FO	32,8	164	7,7	158	208	153	100	75	55	44,5	19	27,3	2xM8	M100x2	75	20
	100	CRM-20/100-FO	32,8	328	11,8	246	346	241	100	75	55	44,5	19	27,3	2xM8	M100x2	75	20
30 /300	50	CRM-30/50-FO	42,9	214	11,4	175	225	170	115	85	65	62	20	33,5	2xM10	M115x2	90	20
	100	CRM-30/100-FO	42,9	429	16,7	265	365	260	115	85	65	62	20	33,5	2xM10	M115x2	90	20
60 /589,6	50	CRM-60/50-FO	84,2	632	30	262	337	250	160	125	90	90	30	54,5	2xM12	M160x4	130	35
	150	CRM-60/150-FO	84,2	1264	37	337	487	325	160	125	90	90	30	54,5	2xM12	M160x4	130	35
100 /947	75	CRM-100/75-FO	135,3	1015	55	267	342	255	215	165	125	125	38	80,5	4xM12	M215x4	175	45

Different strokes and tonnages available.

**BRIDGES - SPACERS
CUSTOM REACTION TOOLS**

Possibility of creating reaction bridges, custom spacers and specific equipment suitable for the installation on hollow cylinders.





PRODUCT PAGE

Cylinders for tensioning operations, maintenance and testing

CUSTOM CYLINDERS ON REQUEST



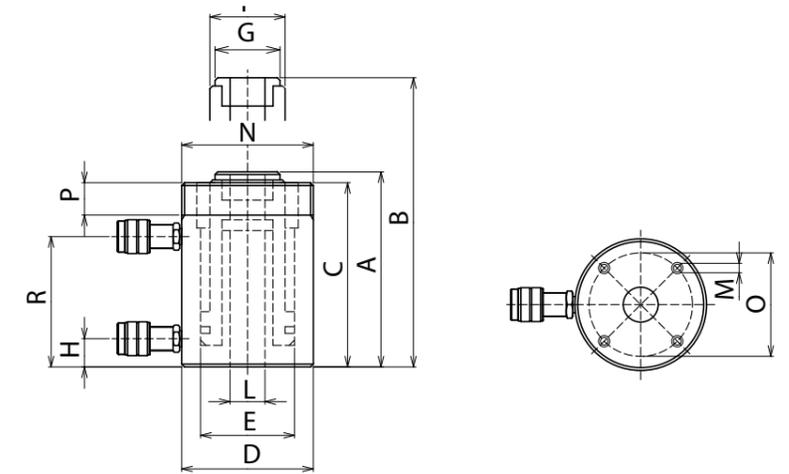
- Oil return hollow hydraulic cylinders, spring return, high pressure. Push force from 30 to 150 tons with range of strokes from 50 mm to 260 mm.
- Hydraulic cylinders with hollow center suitable for operations of tensioning, maintenance and testing; for cable tensioning operations, positioning bars in tensile structures, pulley assembly and disassembly, and cable and tie rod pulling tests.
- The guiding surfaces are sized to guarantee optimal performance in load offset absorption and stop-ring increases safety for the operator avoiding the over stroke of the piston.
- Equipped with high strength gaskets for maximum durability.
- 3/8" NPT female coupler with dust cap equipped and threaded section on the outer body of the cylinder.
- High strength head.
- External painting and Nitox ONC treatment on all internal mechanical components for maximum resistance against corrosion and wear up to 30 ton models. 60 ton and higher capacity models feature a Nitox ONC treatment on all mechanical parts.
- All models weighing more than 20 kg are equipped with lifting eyebolts.
- Possibility to design and produce custom made hydraulic cylinders on request, with dedicated geometries, performances and features.

CRI-FO

30-150 ton
Stroke 50-260 mm
700 bar



CRI-FO



CAP ton	STROKE mm	MODEL	FORCE max kN		SECTION cm ²		VOLUME cm ³		MASS kg	DIMENSIONS (mm)													
			Push	Pull	Push	Pull	Push	Pull		A	B	C	D	E	F	G	H	L	M	N	O	P	R
30	150	CRI-30/150-FO	300,2	27,5	42,9	18,3	643	274	19	302	452	296	115	85	70	62	27	33,5	2xM10	M115x2	90	20	235
	260	CRI-30/260-FO	300,2	27,5	42,9	18,3	1115	475	25,6	412	672	406	115	85	70	62	27	33,5	2xM10	M115x2	90	20	345
60	75	CRI-60/75-FO	589,6	77,8	84,2	51,8	632	389	25,1	207	282	200	160	125	95	90	30	54,5	2xM12	M160x4	130	35	143
	160	CRI-60/160-FO	589,6	77,8	84,2	51,8	1348	830	33,4	292	452	285	160	125	95	90	30	54,5	2xM12	M160x4	130	35	228
100	260	CRI-60/260-FO	589,6	77,8	84,2	51,8	2191	1348	43,3	392	652	385	160	125	95	90	30	54,5	2xM12	M160x4	130	35	328
	75	CRI-100/75-FO	947	121,6	135,28	81,09	1015	608	52	242	317	235	215	165	130	125	38	80,5	4xM12	M215x4	175	45	164
150	150	CRI-100/150-FO	947	121,6	135,28	81,09	2029	1216	65,5	317	467	310	215	165	130	125	38	80,5	4xM12	M215x4	175	45	239
	260	CRI-100/260-FO	947	121,6	135,28	81,09	3517	2108	85,4	427	687	420	215	165	130	125	38	80,5	4xM12	M215x4	175	45	349
150	200	CRI-150/200-FO	1435	160,2	205	106,8	4100	2136	101	354	554	350	247	190	139	38	80,5	-	-	-	-	-	287

Different strokes and tonnages available.

**BRIDGES - SPACERS
CUSTOM REACTION TOOLS**

Possibility of creating reaction bridges, custom spacers and specific equipment suitable for the installation on double acting hollow cylinders.





PRODUCT PAGE

High tonnage

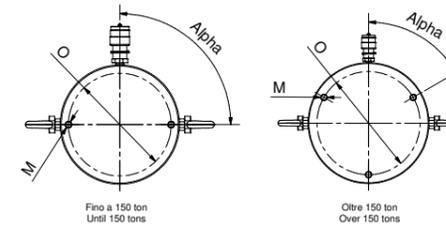
CUSTOM CYLINDERS ON REQUEST



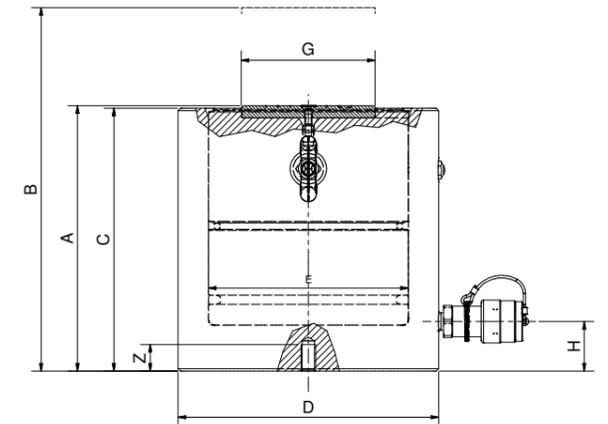
- Single-acting high tonnage hydraulic cylinders with load return. Push force from 50 to 1000 tons with range of strokes from 50 mm to 300 mm.
- Plunger execution, equipped with stroke indicator and anti overstroke device.
- Hydraulic cylinders suitable for heavy duty applications, pushing and large lifting operations.
- The guiding surfaces are sized to guarantee optimal performance in load offset absorption.
- Equipped with high strength gaskets for maximum durability, 3/8" NPT female coupler with dust cap equipped.
- Removable high strength saddle and possibility of mounting a tilting saddle for better distribution of the load to be lifted.
- Nitox ONC treatment on all mechanical components for maximum resistance against corrosion and wear.
- All models are equipped with lifting eyebolts.
- Possibility to design and produce custom made hydraulic cylinders on request, with dedicated geometries, performances and features.

CSE TU

50-1000 ton
Stroke 50-300 mm
700 bar



CSE TU



CAP/Force ton (kN)	STROKE mm	MODEL	SECTION cm ²	VOLUME cm ³	MASS kg	DIMENSIONS (mm)										
						A	B	C	D	E	G	H	M	O	Z	Alpha
50 /549,78	50	CSE50/50-TU	78,5	392,7	14,3	139	189	137	130	100	72	24	M8x1,25	105	10	90
	100	CSE50/100-TU	78,5	785,4	19,3	189	289	187	130	100	72	24	M8x1,25	105	10	90
	150	CSE50/150-TU	78,5	1178,1	24,8	239	389	237	130	100	72	24	M8x1,25	105	10	90
	200	CSE50/200-TU	78,5	1570,8	29,8	289	489	287	130	100	72	24	M8x1,25	105	10	90
	250	CSE50/250-TU	78,5	1963,5	35,3	339	589	337	130	100	72	24	M8x1,25	105	10	90
100 /1001,97	300	CSE50/300-TU	78,5	2356,2	40,3	389	689	387	130	100	72	24	M8x1,25	105	10	90
	50	CSE100/50-TU	143,1	715,7	29	154	204	152	175	135	92	33	M12x1,75	150	22	90
	100	CSE100/100-TU	143,1	1431,4	38,5	204	304	202	175	135	92	33	M12x1,75	150	22	90
	150	CSE100/150-TU	143,1	2147,1	47,7	254	404	252	175	135	92	33	M12x1,75	150	22	90
	200	CSE100/200-TU	143,1	2862,8	57,3	304	504	302	175	135	92	33	M12x1,75	150	22	90
150 /1496,77	250	CSE100/250-TU	143,1	3578,5	66,9	354	604	352	175	135	92	33	M12x1,75	150	22	90
	300	CSE100/300-TU	143,1	4294,2	76,4	404	704	402	175	135	92	33	M12x1,75	150	22	90
	50	CSE150/50-TU	213,8	1069,1	48	169	219	167	215	165	110	41	M12x1,75	185	22	90
	100	CSE150/100-TU	213,8	2138,2	62,1	219	319	217	215	165	110	41	M12x1,75	185	22	90
	150	CSE150/150-TU	213,8	3207,4	76,3	269	419	267	215	165	110	41	M12x1,75	185	22	90
200 /1984,70	200	CSE150/200-TU	213,8	4276,5	90,9	319	519	317	215	165	110	41	M12x1,75	185	22	90
	250	CSE150/250-TU	213,8	5345,6	105	369	619	367	215	165	110	41	M12x1,75	185	22	90
	300	CSE150/300-TU	213,8	6414,7	119,6	419	719	417	215	165	110	41	M12x1,75	185	22	90
	50	CSE200/50-TU	283,5	1417,6	68,5	193	243	191	250	190	138	47	M12x1,75	215	22	60
	100	CSE200/100-TU	283,5	2835,3	88,2	243	343	241	250	190	138	47	M12x1,75	215	22	60
250 /2541,35	150	CSE200/150-TU	283,5	4252,9	107,3	293	443	291	250	190	138	47	M12x1,75	215	22	60
	200	CSE200/200-TU	283,5	5670,6	127	343	543	341	250	190	138	47	M12x1,75	215	22	60
	250	CSE200/250-TU	283,5	7088,2	146,2	393	643	391	250	190	138	47	M12x1,75	215	22	60
	300	CSE200/300-TU	283,5	8505,9	165,8	443	743	441	250	190	138	47	M12x1,75	215	22	60
	50	CSE250/50-TU	363,0	1815,3	94,5	197	247	195	280	215	148	53	M12x1,75	245	22	60
250 /2541,35	100	CSE250/100-TU	363,0	3630,5	119,2	247	347	245	280	215	148	53	M12x1,75	245	22	60
	150	CSE250/150-TU	363,0	5445,8	143,4	297	447	295	280	215	148	53	M12x1,75	245	22	60
	200	CSE250/200-TU	363,0	7261,0	167,6	347	547	345	280	215	148	53	M12x1,75	245	22	60
	250	CSE250/250-TU	363,0	9076,3	192,2	397	647	395	280	215	148	53	M12x1,75	245	22	60
	300	CSE250/300-TU	363,0	10891,5	216,4	447	747	445	280	215	148	53	M12x1,75	245	22	60

CAP/Force ton (kN)	STROKE mm	MODEL	SECTION cm ²	VOLUME cm ³	MASS kg	DIMENSIONS (mm)										
						A	B	C	D	E	G	H	M	O	Z	Alpha
300 /3036,15	50	CSE300/50-TU	433,7	2168,7	126,8	222	272	220	305	235	158	58	M16x2	260	25	60
	100	CSE300/100-TU	433,7	4337,4	155,6	272	372	270	305	235	158	58	M16x2	260	25	60
	150	CSE300/150-TU	433,7	6506,0	184,3	322	472	320	305	235	158	58	M16x2	260	25	60
	200	CSE300/200-TU	433,7	8674,7	213,1	372	572	370	305	235	158	58	M16x2	260	25	60
	250	CSE300/250-TU	433,7	10843,4	242,3	422	672	420	305	235	158	58	M16x2	260	25	60
	300	CSE300/300-TU	433,7	13012,1	271,1	472	772	470	305	235	158	58	M16x2	260	25	60
400 /4007,89	50	CSE400/50-TU	572,6	2862,8	188,3	252	302	247	350	270	196	67	M16x2	300	25	60
	100	CSE400/100-TU	572,6	5725,6	226,2	302	402	297	350	270	196	67	M16x2	300	25	60
	150	CSE400/150-TU	572,6	8588,3	264,1	352	502	347	350	270	196	67	M16x2	300	25	60
	200	CSE400/200-TU	572,6	11451,1	302,5	402	602	397	350	270	196	67	M16x2	300	25	60
	250	CSE400/250-TU	572,6	14313,9	340,4	452	702	447	350	270	196	67	M16x2	300	25	60
	300	CSE400/300-TU	572,6	17176,7	378,3	502	802	497	350	270	196	67	M16x2	300	25	60
500 /5114,32	50	CSE500/50-TU	730,6	3653,1	271,9	285	335	280	400	305	214	75	M24x3	340	36	60
	100	CSE500/100-TU	730,6	7306,2	321,7	335	435	330	400	305	214	75	M24x3	340	36	60
	150	CSE500/150-TU	730,6	10959,3	371	385	535	380	400	305	214	75	M24x3	340	36	60
	200	CSE500/200-TU	730,6	14612,3	420,8	435	635	430	400	305	214	75	M24x3	340	36	60
	250	CSE500/250-TU	730,6	18265,4	470,5	485	735	480	400	305	214	75	M24x3	340	36	60
	300	CSE500/300-TU	730,6	21918,5	519,8	535	835	530	400	305	214	75	M24x3	340	36	60
600 /5987,09	50	CSE600/50-TU	855,3	4276,5	338,9	300	350	295	430	330	244	81	M24x3	370	36	60
	100	CSE600/100-TU	855,3	8553,0	396	350	450	345	430	330	244	81	M24x3	370	36	60
	150	CSE600/150-TU	855,3	12829,5	453,5	400	550	395	430	330	244	81	M24x3	370	36	60
	200	CSE600/200-TU	855,3	17106,0	511	450	650	445	430	330	244	81	M24x3	370	36	60
	250	CSE600/250-TU	855,3	21382,5	568,1	500	750	495	430	330	244	81	M24x3	370	36	60
	300	CSE600/300-TU	855,3	25659,0	625,6	550	850	545	430	330	244	81	M24x3	370	36	60
800 /8149,09	50	CSE800/50-TU	1164,2	5820,8	530,6	340	390	335	505	385	292	95	M24x3	440	36	60
	100	CSE800/100-TU	1164,2	11641,6	610,1	390	490	385	505	385	292	95	M24x3	440	36	60
	150	CSE800/150-TU	1164,2	17462,3	689	440	590	435	505	385	292	95	M24x3	440	36	60
	200	CSE800/200-TU	1164,2	23283,1	768	490	690	485	505	385	292	95	M24x3	440	36	60
	250	CSE800/250-TU	1164,2	29103,9	847,5	540	790	535	505	385	292	95	M24x3	440	36	60
	300	CSE800/300-TU	1164,2	34924,7	926,5	590	890	585	505	385	292	95	M24x3	440	36	60
1000 /10643,72	50	CSE1000/50-TU	1520,5	7602,7	755,4	379	429	374	570	440	292	110	M24x3	500	36	60
	100	CSE1000/100-TU	1520,5	15205,3	855,8	429	529	424	570	440	292	110	M24x3	500	36	60
	150	CSE1000/150-TU	1520,5	22808,0	956,7	479	629	474	570	440	292	110	M24x3	500	36	60
	200	CSE1000/200-TU	1520,5	30410,6	1057,7	529	729	524	570	440	292	110	M24x3	500	36	60
	250	CSE1000/250-TU	1520,5	38013,3	1158,6	579	829	574	570	440	292	110	M24x3	500	36	60
	300	CSE1000/300-TU	1520,5	45616,0	1259,5	629	929	624	570	440	292	110	M24x3	500	36	60



Series
CSE GS C

Single acting cylinders with lock nut, low height for confined spaces



PRODUCT PAGE

High tonnage and confined area

CUSTOM CYLINDERS ON REQUEST



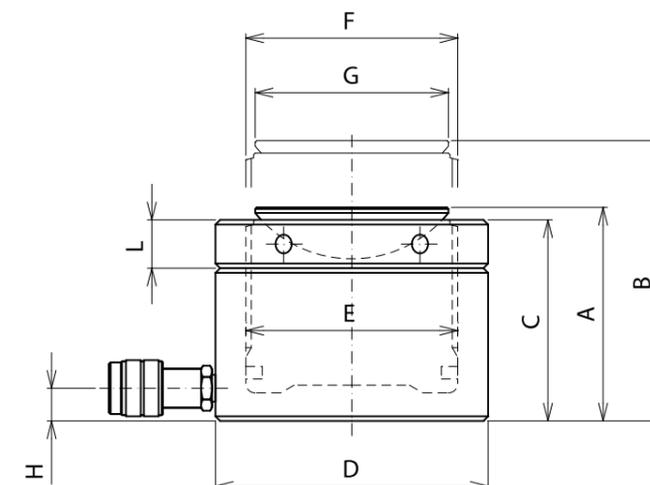
- High tonnage hydraulic cylinders with lock nut, reduced height, single acting. Push force from 60 to 500 tons with a range of strokes from 45 mm to 50 mm.
- Compact hydraulic cylinders, suitable for lifting operations pushing and heavy lifting. Lock nut for the maintenance of the load in complete safety.
- The guiding surfaces are sized to guarantee optimal performance in load offset absorption. Plugging execution, equipped with anti overstroke device.
- Equipped with high-strength gaskets for maximum durability.
- 3/8" NPT female coupler with dust cap equipped.
- Tilting saddle for optimal offset load distribution.
- Nitox ONC treatment on all mechanical components for maximum resistance against corrosion and wear.
- All models are equipped with lifting eyebolts.
- Possibility to design and produce custom made hydraulic cylinders on request, with dedicated geometries, performances and features.

CSE GS C

60-500 ton
Stroke 45-50 mm
700 bar



CSE GS C



CAP/Force	STROKE	MODEL	EFFECTIVE AREA	VOLUME	MASS	DIMENSIONS (mm)									MAX SADDLE INCLINATION
						A	B	C	D	E	F	G	H	L	
60 /606	50	CSE-60/50-GS-C	86,6	433	15	125	175	119	140	105	Tr 105x4	96	19	28	5
100 /1002	50	CSE-100/50-GS-C	143,1	716	24,5	137	187	129	173	135	Tr 135x6	126	21	31	5
160 /1589	45	CSE-160/45-GS-C	228	1021	42,5	148	193	139	220	170	Tr 170x6	160	27	40	5
200 /1985	45	CSE-200/45-GS-C	283,5	1276	55	155	200	145	245	190	Tr 190x6	180	30	43	5
250 /2541	45	CSE-250/45-GS-C	363,1	1634	70	159	204	147	275	215	Tr 215x6	200	32	43	5
400 /4008	45	CSE-400/45-GS-C	572,6	2576	128	178	223	166	350	270	Tr 270x6	250	40	55	4
500 /5114	45	CSE-500/45-GS-C	730,6	3288	182	192	237	182	400	305	Tr 305x6	290	49	61,5	3



Series
CSE GS TU

Single acting high tonnage cylinder, load return with lock nut



PRODUCT PAGE

High tonnage cylinders, lock nut, load return

CUSTOM CYLINDERS ON REQUEST



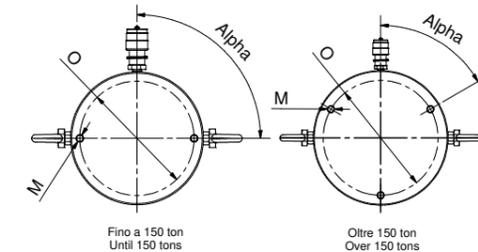
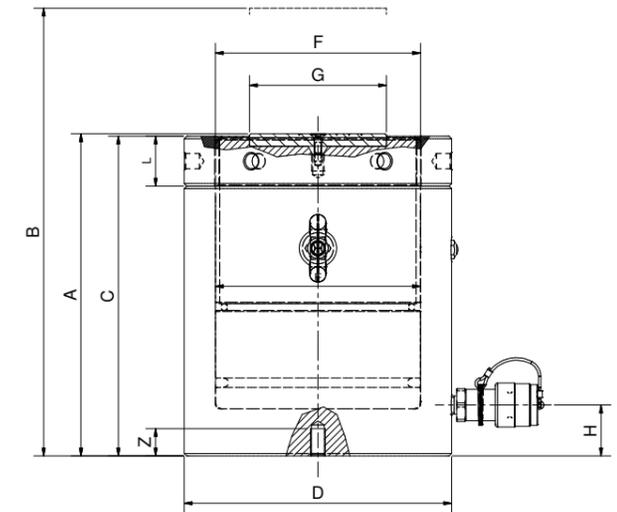
- High tonnage hydraulic cylinders, with lock nut, load return. Push force from 50 to 1000 ton, with range of strokes from 50 mm to 300 mm
- High tonnage hydraulic cylinders up to 3000 ton, suitable for heavy usage, lifting operations, pushing and heavy lifting.
- Plunger execution, equipped with stroke indicator and anti overstroke device.
- Lock nut for safe load upkeep. The threaded nut allows the locking and the mechanical upkeep of the load even for very long periods of time with disconnected pump. The operator then has the opportunity to work under raised load in complete safety.
- The guiding surfaces are sized to guarantee optimal performance in load offset absorption.
- 3/8" NPT female coupler with dust cap equipped.
- Removable high strength head and possibility of mounting a tilting saddle for better distribution of the load to be lifted.
- Nitox ONC treatment on all mechanical components for maximum resistance against corrosion and wear.
- All models are equipped with lifting eyebolts.
- Possibility to design and produce custom made hydraulic cylinders on request, with dedicated geometries, performances and features.

CSE GS TU

50-1000 ton
Stroke 50 - 300 mm
700 bar



CSE GS TU



CAP/Force ton (kN)	STROKE mm	MODEL	SECTION cm ²	VOLUME cm ³	MASS kg	DIMENSIONS (mm)												
						A	B	C	D	E	F	G	H	L	M	O	Z	Alpha
50 /549,78	50	CSE50/50-GS-TU	78,5	392,7	16,9	164	214	162	130	100	Tr.100x4	72	24	25	M8x1,25	105	10	90
	100	CSE50/100-GS-TU	78,5	785,4	21,9	214	314	212	130	100	Tr.100x4	72	24	25	M8x1,25	105	10	90
	150	CSE50/150-GS-TU	78,5	1178,1	27,4	264	414	262	130	100	Tr.100x4	72	24	25	M8x1,25	105	10	90
	200	CSE50/200-GS-TU	78,5	1570,8	32,4	314	514	312	130	100	Tr.100x4	72	24	25	M8x1,25	105	10	90
	250	CSE50/250-GS-TU	78,5	1963,5	37,9	364	614	362	130	100	Tr.100x4	72	24	25	M8x1,25	105	10	90
100 /1001,97	300	CSE50/300-GS-TU	78,5	2356,2	42,9	414	714	412	130	100	Tr.100x4	72	24	25	M8x1,25	105	10	90
	50	CSE100/50-GS-TU	143,1	715,7	35,2	187	237	185	175	135	Tr.135x6	92	33	33	M12x1,75	150	22	90
	100	CSE100/100-GS-TU	143,1	1431,4	44,7	237	337	235	175	135	Tr.135x6	92	33	33	M12x1,75	150	22	90
	150	CSE100/150-GS-TU	143,1	2147,1	53,9	287	437	285	175	135	Tr.135x6	92	33	33	M12x1,75	150	22	90
	200	CSE100/200-GS-TU	143,1	2862,8	63,5	337	537	335	175	135	Tr.135x6	92	33	33	M12x1,75	150	22	90
150 /1496,77	250	CSE100/250-GS-TU	143,1	3578,5	73,1	387	637	385	175	135	Tr.135x6	92	33	33	M12x1,75	150	22	90
	300	CSE100/300-GS-TU	143,1	4294,2	82,6	437	737	435	175	135	Tr.135x6	92	33	33	M12x1,75	150	22	90
	50	CSE150/50-GS-TU	213,8	1069,1	59,4	209	259	207	215	165	Tr.165x6	110	41	40	M12x1,75	185	22	90
	100	CSE150/100-GS-TU	213,8	2138,2	73,5	259	359	257	215	165	Tr.165x6	110	41	40	M12x1,75	185	22	90
	150	CSE150/150-GS-TU	213,8	3207,4	87,7	309	459	307	215	165	Tr.165x6	110	41	40	M12x1,75	185	22	90
150 /1496,77	200	CSE150/200-GS-TU	213,8	4276,5	102,3	359	559	357	215	165	Tr.165x6	110	41	40	M12x1,75	185	22	90
	250	CSE150/250-GS-TU	213,8	5345,6	116,4	409	659	407	215	165	Tr.165x6	110	41	40	M12x1,75	185	22	90
	300	CSE150/300-GS-TU	213,8	6414,7	131	459	759	457	215	165	Tr.165x6	110	41	40	M12x1,75	185	22	90

CAP/Force	STROKE	MODEL	SECTION	VOLUME	MASS	DIMENSIONS (mm)												
ton (kN)	mm		cm ²	cm ³	kg	A	B	C	D	E	F	G	H	L	M	O	Z	Alpha
200 /1984,70	50	CSE200/50-GS-TU	283,5	1417,6	85,8	238	288	236	250	190	Tr.190x6	138	47	45	M12x1,75	215	22	60
	100	CSE200/100-GS-TU	283,5	2835,3	105,5	288	388	286	250	190	Tr.190x6	138	47	45	M12x1,75	215	22	60
	150	CSE200/150-GS-TU	283,5	4252,9	124,6	338	488	336	250	190	Tr.190x6	138	47	45	M12x1,75	215	22	60
	200	CSE200/200-GS-TU	283,5	5670,6	144,3	388	588	386	250	190	Tr.190x6	138	47	45	M12x1,75	215	22	60
	250	CSE200/250-GS-TU	283,5	7088,2	163,5	438	688	436	250	190	Tr.190x6	138	47	45	M12x1,75	215	22	60
	300	CSE200/300-GS-TU	283,5	8505,9	183,1	488	788	486	250	190	Tr.190x6	138	47	45	M12x1,75	215	22	60
250 /2541,35	50	CSE250/50-GS-TU	363,0	1815,3	119,6	249	299	247	280	215	Tr.215x6	148	53	52	M12x1,75	245	22	60
	100	CSE250/100-GS-TU	363,0	3630,5	144,3	299	399	297	280	215	Tr.215x6	148	53	52	M12x1,75	245	22	60
	150	CSE250/150-GS-TU	363,0	5445,8	168,5	349	499	347	280	215	Tr.215x6	148	53	52	M12x1,75	245	22	60
	200	CSE250/200-GS-TU	363,0	7261,0	192,7	399	599	397	280	215	Tr.215x6	148	53	52	M12x1,75	245	22	60
	250	CSE250/250-GS-TU	363,0	9076,3	217,3	449	699	447	280	215	Tr.215x6	148	53	52	M12x1,75	245	22	60
	300	CSE250/300-GS-TU	363,0	10891,5	241,5	499	799	497	280	215	Tr.215x6	148	53	52	M12x1,75	245	22	60
300 /3036,15	50	CSE300/50-GS-TU	433,7	2168,7	158,9	278	328	276	305	235	Tr.235x6	158	58	56	M16x2	260	25	60
	100	CSE300/100-GS-TU	433,7	4337,4	187,7	328	428	326	305	235	Tr.235x6	158	58	56	M16x2	260	25	60
	150	CSE300/150-GS-TU	433,7	6506,0	216,4	378	528	376	305	235	Tr.235x6	158	58	56	M16x2	260	25	60
	200	CSE300/200-GS-TU	433,7	8674,7	245,2	428	628	426	305	235	Tr.235x6	158	58	56	M16x2	260	25	60
	250	CSE300/250-GS-TU	433,7	10843,4	274,4	478	728	476	305	235	Tr.235x6	158	58	56	M16x2	260	25	60
	300	CSE300/300-GS-TU	433,7	13012,1	303,2	528	828	526	305	235	Tr.235x6	158	58	56	M16x2	260	25	60
400 /4007,89	50	CSE400/50-GS-TU	572,6	2862,8	237,4	317	367	312	350	270	Tr.270x6	196	67	65	M16x2	300	25	60
	100	CSE400/100-GS-TU	572,6	5725,6	275,3	367	467	362	350	270	Tr.270x6	196	67	65	M16x2	300	25	60
	150	CSE400/150-GS-TU	572,6	8588,3	313,2	417	567	412	350	270	Tr.270x6	196	67	65	M16x2	300	25	60
	200	CSE400/200-GS-TU	572,6	11451,1	351,6	467	667	462	350	270	Tr.270x6	196	67	65	M16x2	300	25	60
	250	CSE400/250-GS-TU	572,6	14313,9	389,5	517	767	512	350	270	Tr.270x6	196	67	65	M16x2	300	25	60
	300	CSE400/300-GS-TU	572,6	17176,7	427,4	567	867	562	350	270	Tr.270x6	196	67	65	M16x2	300	25	60
500 /5114,32	50	CSE500/50-GS-TU	730,6	3653,1	342,9	357	407	352	400	305	Tr.305x6	214	75	72	M24x3	340	36	60
	100	CSE500/100-GS-TU	730,6	7306,2	392,7	407	507	402	400	305	Tr.305x6	214	75	72	M24x3	340	36	60
	150	CSE500/150-GS-TU	730,6	10959,3	442	457	607	452	400	305	Tr.305x6	214	75	72	M24x3	340	36	60
	200	CSE500/200-GS-TU	730,6	14612,3	491,8	507	707	502	400	305	Tr.305x6	214	75	72	M24x3	340	36	60
	250	CSE500/250-GS-TU	730,6	18265,4	541,5	557	807	552	400	305	Tr.305x6	214	75	72	M24x3	340	36	60
	300	CSE500/300-GS-TU	730,6	21918,5	590,8	607	907	602	400	305	Tr.305x6	214	75	72	M24x3	340	36	60
600 /5987,09	50	CSE600/50-GS-TU	855,3	4276,5	430,1	380	430	375	430	330	Tr.330x6	244	81	80	M24x3	370	36	60
	100	CSE600/100-GS-TU	855,3	8553,0	487,2	430	530	425	430	330	Tr.330x6	244	81	80	M24x3	370	36	60
	150	CSE600/150-GS-TU	855,3	12829,5	544,7	480	630	475	430	330	Tr.330x6	244	81	80	M24x3	370	36	60
	200	CSE600/200-GS-TU	855,3	17106,0	602,2	530	730	525	430	330	Tr.330x6	244	81	80	M24x3	370	36	60
	250	CSE600/250-GS-TU	855,3	21382,5	659,3	580	830	575	430	330	Tr.330x6	244	81	80	M24x3	370	36	60
	300	CSE600/300-GS-TU	855,3	25659,0	716,8	630	930	625	430	330	Tr.330x6	244	81	80	M24x3	370	36	60
800 /8149,09	50	CSE800/50-GS-TU	1164,2	5820,8	672,1	430	480	425	505	385	Tr.385x6	292	95	90	M24x3	440	36	60
	100	CSE800/100-GS-TU	1164,2	11641,6	751,6	480	580	475	505	385	Tr.385x6	292	95	90	M24x3	440	36	60
	150	CSE800/150-GS-TU	1164,2	17462,3	830,5	530	680	525	505	385	Tr.385x6	292	95	90	M24x3	440	36	60
	200	CSE800/200-GS-TU	1164,2	23283,1	909,5	580	780	575	505	385	Tr.385x6	292	95	90	M24x3	440	36	60
	250	CSE800/250-GS-TU	1164,2	29103,9	989	630	880	625	505	385	Tr.385x6	292	95	90	M24x3	440	36	60
	300	CSE800/300-GS-TU	1164,2	34924,7	1068	680	980	675	505	385	Tr.385x6	292	95	90	M24x3	440	36	60
1000 /10643,72	50	CSE1000/50-GS-TU	1520,5	7602,7	965,7	484	534	479	570	440	Tr.440x6	292	110	105	M24x3	500	36	60
	100	CSE1000/100-GS-TU	1520,5	15205,3	1066,1	534	634	529	570	440	Tr.440x6	292	110	105	M24x3	500	36	60
	150	CSE1000/150-GS-TU	1520,5	22808,0	1167	584	734	579	570	440	Tr.440x6	292	110	105	M24x3	500	36	60
	200	CSE1000/200-GS-TU	1520,5	30410,6	1268	634	834	629	570	440	Tr.440x6	292	110	105	M24x3	500	36	60
	250	CSE1000/250-GS-TU	1520,5	38013,3	1368,9	684	934	679	570	440	Tr.440x6	292	110	105	M24x3	500	36	60
	300	CSE1000/300-GS-TU	1520,5	45616,0	1469,8	734	1034	729	570	440	Tr.440x6	292	110	105	M24x3	500	36	60



Series **CRI GS TA** | High tonnage cylinder, with lock nut, oil return



PRODUCT PAGE

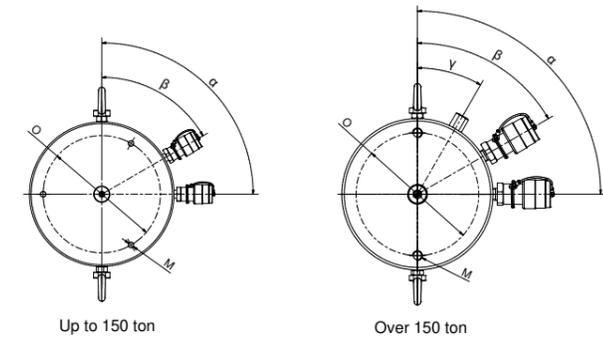
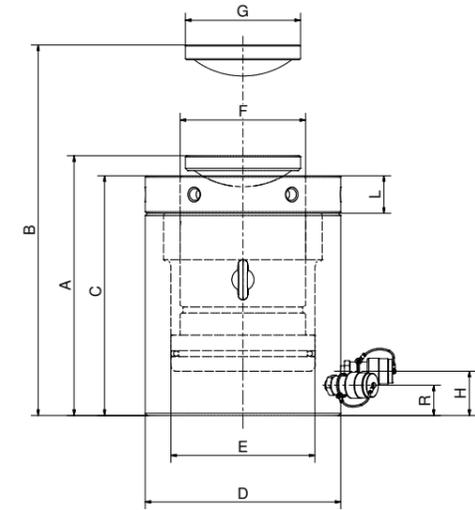
High tonnage lock nut with oil return

CUSTOM CYLINDERS ON REQUEST



- High tonnage hydraulic cylinders with lock nut, oil return, with rapid hydraulic return, high pressure. Push force from 30 to 600 tons with range of strokes from 50 mm to 300 mm on customer request.
- High tonnage hydraulic cylinders up to 3.000 ton, suitable for heavy usage, lifting operations, pushing and heavy lifting.
- Lock nut for safe load upkeep. The threaded nut allows the locking and the mechanical upkeep of the load even for very long periods of time with disconnected pump. The operator then has the opportunity to work under raised load in complete safety.
- The guiding surfaces are sized to guarantee optimal performance in load offset absorption and the stop ring increases safety for the operator avoiding the extra stroke of piston.
- Equipped with high-strength gaskets for maximum durability.
- 3/8" NPT female coupler with dust cap equipped.
- Integrated high strength tilting saddle for better distribution of the load to be lifted.
- Nitox ONC treatment on all mechanical components for maximum resistance against corrosion and wear.
- All models are equipped with lifting eyebolts.

CRI GS TA



CAP/Force	STROKE	MODEL	SECTION cm ²		VOLUME		MASS	DIMENSIONS (mm)													MAX SADDLE INCLINATION		
			Push	Pull	Push	Pull		kg	A	B	C	D	E	F	G	H	L	M	O	R		Alpha (°)	Beta (°)
50 /500,30	100	CRI-50-100-GS TA	71,47	16,69	714,71	166,90	27	277	377	256	135	100	TR85X6	96	45	28	M12x1,75	105	30,8	90	60	30	5
	150	CRI-50-150-GS TA	71,47	16,69	1072,07	250,35	31	327	477	306	135	100	TR85X6	96	45	28	M12x1,75	105	30,8	90	60	30	5
	200	CRI-50-200-GS TA	71,47	16,69	1429,42	333,79	35	377	577	356	135	100	TR85X6	96	45	28	M12x1,75	105	30,8	90	60	30	5
	250	CRI-50-250-GS TA	71,47	16,69	1786,78	417,24	39,5	427	677	406	135	100	TR85X6	96	45	28	M12x1,75	105	30,8	90	60	30	5
	300	CRI-50-300-GS TA	71,47	16,69	2144,14	500,69	43,5	477	777	456	135	100	TR85X6	96	45	28	M12x1,75	105	30,8	90	60	30	5
100 /1028,09	100	CRI-100-100-GS TA	146,87	16,69	1468,69	166,90	55	299	399	275	185	140	TR120X6	116	45	38	M12x1,75	150	30,8	90	60	30	5
	150	CRI-100-150-GS TA	146,87	16,69	2203,04	250,35	63,5	349	499	325	185	140	TR120X6	116	45	38	M12x1,75	150	30,8	90	60	30	5
	200	CRI-100-200-GS TA	146,87	16,69	2937,39	333,79	76	419	619	395	185	140	TR120X6	116	45	38	M12x1,75	150	30,8	90	60	30	5
	250	CRI-100-250-GS TA	146,87	16,69	3671,74	417,24	84	469	719	445	185	140	TR120X6	116	45	38	M12x1,75	150	30,8	90	60	30	5
150 /1500,90	100	CRI-150-100-GS TA	214,41	20,62	2144,14	206,17	87,5	316	416	290	225	170	TR145X6	146	51	44	M12x1,75	185	35,5	90	60	30	5
	150	CRI-150-150-GS TA	214,41	20,62	3216,21	309,25	99,5	366	516	340	225	170	TR145X6	146	51	44	M12x1,75	185	35,5	90	60	30	5
	200	CRI-150-200-GS TA	214,41	20,62	4288,27	412,33	117	434	634	408	225	170	TR145X6	146	51	44	M12x1,75	185	35,5	90	60	30	5
	250	CRI-150-250-GS TA	214,41	20,62	5360,34	515,42	130	484	734	458	225	170	TR145X6	146	51	44	M12x1,75	185	35,5	90	60	30	5
	300	CRI-150-300-GS TA	214,41	20,62	6432,41	618,50	142,5	534	834	508	225	170	TR145X6	146	51	44	M12x1,75	185	35,5	90	60	30	5

CAP/Force	STROKE	MODEL	SECTION cm ²		VOLUME		MASS	DIMENSIONS (mm)														MAX SADDLE INCLINATION	
			Push	Pull	Push	Pull		kg	A	B	C	D	E	F	G	H	L	M	O	R	Alpha (°)		Beta (°)
200 /2002,57	100	CRI-200-100-GS TA	286,08	44,18	2860,81	441,79	134	352	452	325	265	195	TR170X6	156	60	51	M12x1,75	215	41	90	60	-	5
	150	CRI-200-150-GS TA	286,08	44,18	4291,22	662,68	151,5	402	552	375	265	195	TR170X6	156	60	51	M12x1,75	215	41	90	60	-	5
	200	CRI-200-200-GS TA	286,08	44,18	5721,63	883,57	176	469	669	442	265	195	TR170X6	156	60	51	M12x1,75	215	41	90	60	-	5
	250	CRI-200-250-GS TA	286,08	44,18	7152,03	1104,47	193	519	769	492	265	195	TR170X6	156	60	51	M12x1,75	215	41	90	60	-	5
	300	CRI-200-300-GS TA	286,08	44,18	8582,44	1325,36	210	569	869	542	265	195	TR170X6	156	60	51	M12x1,75	215	41	90	60	-	5
250 /2453,39	100	CRI-250-100-GS TA	350,48	44,18	3504,84	441,79	172	370	470	340	290	215	TR190X6	194	60	58	M12x1,75	245	41	90	60	-	5
	150	CRI-250-150-GS TA	350,48	44,18	5257,26	662,68	193	420	570	390	290	215	TR190X6	194	60	58	M12x1,75	245	41	90	60	-	5
	200	CRI-250-200-GS TA	350,48	44,18	7009,68	883,57	225	490	690	460	290	215	TR190X6	194	60	58	M12x1,75	245	41	90	60	-	5
	250	CRI-250-250-GS TA	350,48	44,18	8762,10	1104,47	246	540	790	510	290	215	TR190X6	194	60	58	M12x1,75	245	41	90	60	-	5
	300	CRI-250-300-GS TA	350,48	44,18	10514,52	1325,36	266	590	890	560	290	215	TR190X6	194	60	58	M12x1,75	245	41	90	60	-	5
300 /2948,19	100	CRI-300-100-GS TA	421,17	44,18	4211,70	441,79	206	374	474	344	315	235	TR205X6	210	60	60	M16x2	260	41	90	60	-	5
	150	CRI-300-150-GS TA	421,17	44,18	6317,55	662,68	230	424	574	394	315	235	TR205X6	210	60	60	M16x2	260	41	90	60	-	5
	200	CRI-300-200-GS TA	421,17	44,18	8423,40	883,57	268,5	496	696	466	315	235	TR205X6	210	60	60	M16x2	260	41	90	60	-	5
	250	CRI-300-250-GS TA	421,17	44,18	10529,24	1104,47	293	546	796	516	315	235	TR205X6	210	60	60	M16x2	260	41	90	60	-	5
	300	CRI-300-300-GS TA	421,17	44,18	12635,09	1325,36	318	596	896	566	315	235	TR205X6	210	60	60	M16x2	260	41	90	60	-	5
400 /4020,26	100	CRI-400-100-GS TA	574,32	75,40	5743,22	753,98	321	438	538	408	365	275	TR230X6	210	85	75	M18x2,5	280	62,5	90	60	-	5
	150	CRI-400-150-GS TA	574,32	75,40	8614,84	1130,97	352,5	488	638	458	365	275	TR230X6	210	85	75	M18x2,5	280	62,5	90	60	-	5
	200	CRI-400-200-GS TA	574,32	75,40	11486,45	1507,96	402	560	760	530	365	275	TR230X6	210	85	75	M18x2,5	280	62,5	90	60	-	5
	250	CRI-400-250-GS TA	574,32	75,40	14358,06	1884,96	433	610	860	580	365	275	TR230X6	210	85	75	M18x2,5	280	62,5	90	60	-	5
	300	CRI-400-300-GS TA	574,32	75,40	17229,67	2261,95	464	660	960	630	365	275	TR230X6	210	85	75	M18x2,5	280	62,5	90	60	-	5
500 /4976,87	100	CRI-500-100-GS TA	710,98	75,40	7109,82	753,98	406	459	559	427	400	305	TR250X6	240	85	85	M18x2,5	320	62,5	90	60	-	5
	150	CRI-500-150-GS TA	710,98	75,40	10664,73	1130,97	443	509	659	477	400	305	TR250X6	240	85	85	M18x2,5	320	62,5	90	60	-	5
	200	CRI-500-200-GS TA	710,98	75,40	14219,63	1507,96	505	584	784	552	400	305	TR250X6	240	85	85	M18x2,5	320	62,5	90	60	-	5
	250	CRI-500-250-GS TA	710,98	75,40	17774,54	1884,96	542	634	884	602	400	305	TR250X6	240	85	85	M18x2,5	320	62,5	90	60	-	5
	300	CRI-500-300-GS TA	710,98	75,40	21329,45	2261,95	579	684	984	652	400	305	TR250X6	240	85	85	M18x2,5	320	62,5	90	60	-	5





PRODUCT
PAGE

High tonnage
Oil return

CUSTOM CYLINDERS ON REQUEST



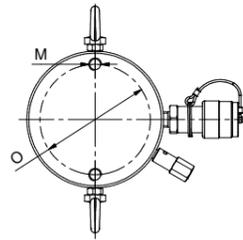
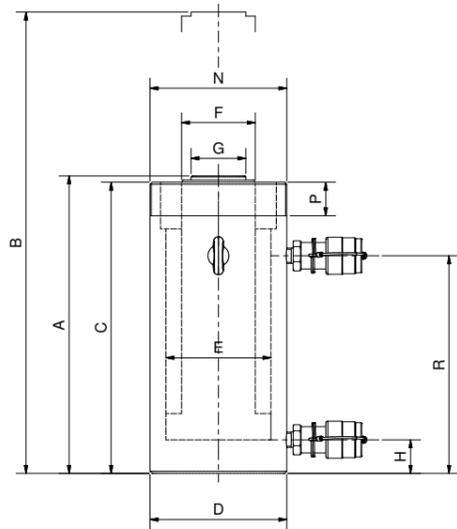
- High tonnage hydraulic cylinders, double acting, oil return, high pressure. Push force from 30 to 1000 ton, with range of strokes from 160 mm to 330 mm.
- Extremely versatile hydraulic cylinders, hydraulic return allows shorter return times also in all conditions of usage, suitable for lifting operations and for heavy-duty applications.
- The guiding surfaces are sized to guarantee optimal performance in load offset absorption and the stop ring increases safety for the operator avoiding the extra stroke of piston. 10 % side load resistance .
- Equipped with high strength gaskets for maximum durability.
- 3/8" NPT female coupler with dust cap equipped.
- Removable high strength head and possibility of mounting a tilting saddle for better distribution of the load to be lifted.
- Nitox ONC treatment on all mechanical components for maximum resistance against corrosion and wear.
- All models are equipped with lifting eyebolts.
- Possibility to design and produce custom made hydraulic cylinders on request, with dedicated geometries, performances and features.





CRI-C

30-1000 ton
Stroke 50-300 mm
700 bar



CRI-C

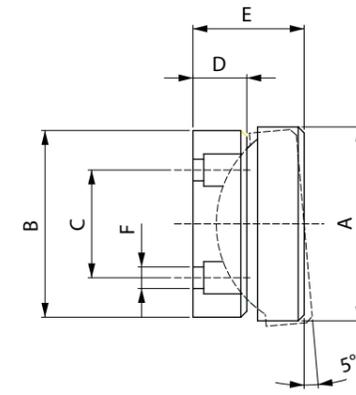
CAP/Force ton (kN)	STROKE mm	MODEL	SECTION cm ²		VOLUME cm ³		MASS kg	DIMENSIONS (mm)												
			Push	Pull	Push	Pull		A	B	C	D	E	F	G	H	M	N	O	P	R
30 /309,2	160	CRI-30/160	44,1	15,9	706,8	254,5	20,6	292	452	280	113	75	60	58	32	2xM10	M112x2	50	35	223
	260	CRI-30/260	44,1	15,9	1148,6	413,5	27,5	392	652	380	113	75	60	58	32	2xM10	M112x2	50	35	223
50 /496,2	50	CRI-C-50/50	70,9	32,4	354,5	162	17,7	183	233	177	130	95	70	52	32	2xM12	M130x2	105	32	107
	100	CRI-C-50/100	70,9	32,4	708,8	324	21,6	233	333	227	130	95	70	52	32	2xM12	M130x2	105	32	157
	150	CRI-C-50/150 (*)	70,9	32,4	1063,2	486	25,5	283	433	277	130	95	70	52	32	2xM12	M130x2	105	32	207
	200	CRI-C-50/200	70,9	32,4	1417,6	648	30,5	343	543	337	130	95	70	52	32	2xM12	M130x2	105	32	267
	250	CRI-C-50/250	70,9	32,4	1772	810	34,5	393	643	387	130	95	70	52	32	2xM12	M130x2	105	32	317
300	CRI-C-50/300 (*)	70,9	32,4	2126,4	972	38,4	443	743	437	130	95	70	52	32	2xM12	M130x2	105	32	367	
100 /1002	50	CRI-C-100/50	143,1	64,6	715,7	323	35	202	252	194	175	135	100	92	36	2xM12	M175x3	150	46	126,5
	100	CRI-C-100/100	143,1	64,6	1431,4	646	42	252	352	244	175	135	100	92	36	2xM12	M175x3	150	46	176,5
	150	CRI-C-100/150	143,1	64,6	2147,1	969	48,8	302	452	294	175	135	100	92	36	2xM12	M175x3	150	46	226,5
	200	CRI-C-100/200	143,1	64,6	2862,8	1292	60,4	378	578	370	175	135	100	92	36	2xM12	M175x3	150	46	288,5
	250	CRI-C-100/250	143,1	64,6	3578,5	1615	67,3	428	678	420	175	135	100	92	36	2xM12	M175x3	150	46	338,5
300	CRI-C-100/300	143,1	64,6	4294,2	1938	74	478	778	470	175	135	100	92	36	2xM12	M175x3	150	46	388,5	
150 /1497	50	CRI-C-150/50	213,8	100,7	1069	503,5	57	220	270	213	215	165	120	110	46	2xM12	M215x3	185	52	136
	100	CRI-C-150/100	213,8	100,7	2138	1007	68	270	370	263	215	165	120	110	46	2xM12	M215x3	185	52	186
	150	CRI-C-150/150	213,8	100,7	3207	1510,5	79	320	470	313	215	165	120	110	46	2xM12	M215x3	185	52	236
	200	CRI-C-150/200	213,8	100,7	4276	2014	96	397	597	390	215	165	120	110	46	2xM12	M215x3	185	52	297
	250	CRI-C-150/250	213,8	100,7	5345	2517,5	106	447	697	440	215	165	120	110	46	2xM12	M215x3	185	52	347
300	CRI-C-150/300	213,8	100,7	6414	3021	117	497	797	490	215	165	120	110	46	2xM12	M215x3	185	52	397	
200 /1985	50	CRI-C-200/50	283,5	106,8	1417,5	534	83	231	281	224	250	190	150	138	50	3xM12	M250x3	215	57	144
	100	CRI-C-200/100	283,5	106,8	2835	1068	98	281	381	274	250	190	150	138	50	3xM12	M250x3	215	57	194
	150	CRI-C-200/150	283,5	106,8	4252,5	1602	111	331	481	324	250	190	150	138	50	3xM12	M250x3	215	57	244
	200	CRI-C-200/200	283,5	106,8	5670	2136	139	408	608	401	250	190	150	138	50	3xM12	M250x3	215	57	306
	250	CRI-C-200/250	283,5	106,8	7087,5	2670	154	458	708	451	250	190	150	138	50	3xM12	M250x3	215	57	356
300	CRI-C-200/300	283,5	106,8	8505	3204	169	508	808	501	250	190	150	138	50	3xM12	M250x3	215	57	406	

CAP/Force ton (kN)	STROKE mm	MODEL	SECTION cm ²		VOLUME cm ³		MASS kg	DIMENSIONS (mm)												
			Push	Pull	Push	Pull		A	B	C	D	E	F	G	H	M	N	O	P	R
250 /2541	50	CRI-C-250/50	363,1	136,1	1815,5	680,5	109	241	291	235	280	215	170	148	55	3xM12	M280x3	245	57	150
	100	CRI-C-250/100	363,1	136,1	3631	1361	128	291	391	285	280	215	170	148	55	3xM12	M280x3	245	57	200
	150	CRI-C-250/150	363,1	136,1	5446,5	2041,5	147	341	491	335	280	215	170	148	55	3xM12	M280x3	245	57	250
	200	CRI-C-250/200	363,1	136,1	7262	2722	185	431	631	425	280	215	170	148	55	3xM12	M280x3	245	57	315
	250	CRI-C-250/250	363,1	136,1	9077,5	3402,5	204	481	731	475	280	215	170	148	55	3xM12	M280x3	245	57	365
300	CRI-C-250/300	363,1	136,1	10893	4083	223	531	831	525	280	215	170	148	55	3xM12	M280x3	245	57	415	
300 /3036	50	CRI-C-300/50	433,7	119,6	2168,5	598	162	296	346	288	305	235	200	158	64	3xM16	M305x3	260	70	178
	100	CRI-C-300/100	433,7	119,6	4337	1196	186	346	446	338	305	235	200	158	64	3xM16	M305x3	260	70	228
	150	CRI-C-300/150	433,7	119,6	6505,5	1794	210	396	546	388	305	235	200	158	64	3xM16	M305x3	260	70	278
	200	CRI-C-300/200	433,7	119,6	8674	2392	234	446	646	438	305	235	200	158	64	3xM16	M305x3	260	70	328
	250	CRI-C-300/250	433,7	119,6	10842,5	2990	258	496	746	488	305	235	200	158	64	3xM16	M305x3	260	70	378
300	CRI-C-300/300	433,7	119,6	13011	3588	282	546	846	538	305	235	200	158	64	3xM16	M305x3	260	70	428	
400 /4008	50	CRI-C-400/50	572,6	192,4	2863	962	231	321	371	313	350	270	220	196	79	3xM16	M350x3	300	83	197
	100	CRI-C-400/100	572,6	192,4	5726	1924	261	371	471	363	350	270	220	196	79	3xM16	M350x3	300	83	247
	150	CRI-C-400/150	572,6	192,4	8589	2886	291	421	571	413	350	270	220	196	79	3xM16	M350x3	300	83	297
	200	CRI-C-400/200	572,6	192,4	11452	3848	321	471	671	463	350	270	220	196	79	3xM16	M350x3	300	83	347
	250	CRI-C-400/250	572,6	192,4	14315	4810	351	521	771	513	350	270	220	196	79	3xM16	M350x3	300	83	397
300	CRI-C-400/300	572,6	192,4	17178	5772	382	571	871	563	350	270	220	196	79	3xM16	M350x3	300	83	447	
500 /5114	50	CRI-C-500/50	730,6	239,7	3653	1198,5	325	344	394	336	400	305	250	214	83	3xM24	M400x4	340	92	211
	100	CRI-C-500/100	730,6	239,7	7306	2397	365	394	494	386	400	305	250	214	83	3xM24	M400x4	340	92	261
	150	CRI-C-500/150	730,6	239,7	10959	3595,5	405	444	594	436	400	305	250	214	83	3xM24	M400x4	340	92	311
	200	CRI-C-500/200	730,6	239,7	14612	4794	445	494	694	486	400	305	250	214	83	3xM24	M400x4	340	92	361
	250	CRI-C-500/250	730,6	239,7	18265	5992,5	484	544	794	536	400	305	250	214	83	3xM24	M400x4	340	92	411
300	CRI-C-500/300	730,6	239,7	21918	7191	524	594	894	586	400	305	250	214	83	3xM24	M400x4	340	92	461	
600 /5987	50	CRI-C-600/50	855,3	282,7	4276,5	1413,5	384	352	402	344	430	330	270	244	90	3xM24	M430x4	370	92	216
	100	CRI-C-600/100	855,3	282,7	8553	2827	430	402	502	394	430	330	270	244	90	3xM24	M430x4	370	92	266
	150	CRI-C-600/150	855,3	282,7	12829,5	4240,5	475	452	602	444	430	330	270	244	90	3xM24	M430x4	370	92	316
	200	CRI-C-600/200	855,3	282,7	17106	5654	521	502	702	494	430	330	270	244	90	3xM24	M430x4	370	92	366
	250	CRI-C-600/250	855,3	282,7	21382,5	7067,5	567	552	802	544	430	330	270	244	90	3xM24	M430x4	370	92	416
300	CRI-C-600/300	855,3	282,7	25659	8481	613	602	902	594	430	330	270	244	90	3xM24	M430x4	370	92	466	
800 /7939	50	CRI-C-800/50	1134,1	329,9																

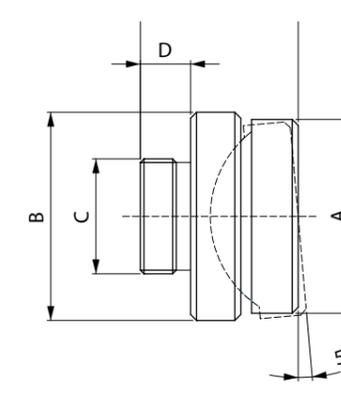
Accessories for cylinders

Series **TAL | TFO | TPO | TFF**
DEO | DEP | DEF | DEA

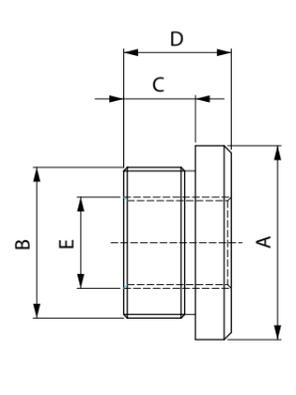
MODEL	CYLINDER MODEL	A	B	C	D	E	WEIGHT Kg
TFO 10	CRM 10	34	37	1" - 8 UN	12	33	0,2
TFO 15	CRM 15	39	41	1" - 8 UN	15	36	0,3
TFO 25	CRM 25	52	53	1 1/2" - 16 UN	15	44	0,5
TFO 30	CRM 30	54	58	1 1/2" - 16 UN	15	46	0,6
TAL 30	CRI 30	54	57	28	18	49,5	0,7



TPO



TAL-TFO



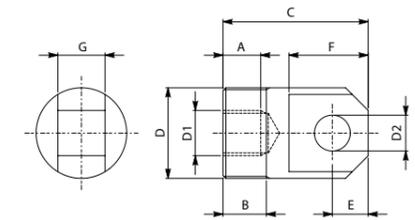
TTF

MODEL	CYLINDER MODEL	A	B	C	D	E	F	WEIGHT Kg
TPO 30	CRMA 30 - CRI-C 50	54	52	30	15	31	5,5 (N°2)	0,45
TPO 50	CSE-50-TU - CSE-50-GS-TU - CRM 50 - CRMA 50	66	72	50	17	35	6,5 (N°2)	0,85
TPO 100	CSE-100-TU - CSE-100-GS-TU - CRM 100 - CRMA 100 - CRI-C 100	96	92	50	22	43	6,5 (N°2)	1,9
TPO 150	CSE-150-TU - CSE-150-GS-TU - CRI-C 150	116	110	70	21	45	6,5 (N°2)	2,8
TPO 200	CSE-200-TU - CSE-200-GS-TU - CRI-C 200	136	138	90	25	51	6,5 (N°2)	5,2
TPO 250	CSE-250-TU - CSE-250-GS-TU - CRI-C 250	146	148	90	25	51	6,5 (N°2)	6
TPO 300	CSE-300-TU - CSE-300-GS-TU - CRI-C 300	156	158	120	25	52	6,5 (N°2)	6,9
TPO 400	CSE-400-TU - CSE-400-GS-TU - CRI-C 400	194	196	160	25	55	8,5 (N°2)	12,2
TPO 500	CSE-500-TU - CSE-500-GS-TU - CRI-C 500	210	214	170	25	55	8,5 (N°2)	14,5
TPO 600	CSE-600-TU - CSE-600-GS-TU - CRI-C 600	240	244	210	27	59	8,5 (N°2)	21,2
TPO 800	CSE-800-TU - CSE-800-GS-TU - CRI-C 800 - CSE-1000-TU - CSE-1000-GS-TU - CRI-C 1000	288	292	250	32	72	10,5 (N°2)	32,4

* Models TPO 10 and TPO 20 are available for out-of-print cylinders

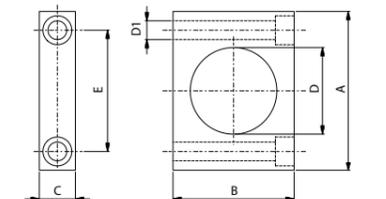
MODEL	CYLINDER MODEL	A	B	C	D	E	WEIGHT Kg
TFF 10	CRM10/**FO	Ø 34,5	M28x1,5	15	20	M18x2,5	0,1
TFF 20	CRM20/**FO	Ø 44,5	M35x1,5	15	23	1" - 8 UNC	0,29
TFF 30	CRM30/**FO CRI30/**FO	Ø 57	M45x2	29	36	1" 1/4-7 UNC	0,35
TFF 60	CRM60/**FO CRI60/**FO	Ø 90	M72x1,5	29	37	1" 5/8-51/2 UNS	1,00
TFF 100	CRM100/**FO CRI100/**FO	Ø 125	M105x2	31	40	M76x6	1,50
TFF 150	CRI150/**FO	Ø 139	M105x2	43	57	M80x6	2,8

Model	Cylinder model	DIMENSIONS (mm)									
		D	D1	D2	A	B	C	E	F	G	Weight kg
DEO 5	CDE 5	M35X1,5	M20X1,5	16	20	23	67	14	34	16	0,3
DEO 10	CDE 10	M48X1,5	M24X2	19	20	23	77	19	42	25	1,03
DEO 14	CDE 14	M56X1,5	M27X2	25	27	28	98	25	54	32	2,2
DEO 22	CDE 22	M70X2	M40X2	32	29	30	112	32	66	38	4,7
DEO 30	CDE 30	M80X2	M50X2	38	30	31	130	38	80	42	6,9



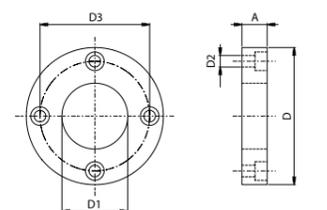
DEO

Model	Cylinder model	DIMENSIONS (mm)						
		D	D1	A	B	C	E	Weight kg
DEP 5	CDE 5	42	10.5	84	60	15	64	0.3
DEP 10	CDE 10	60	13	110	84	25	84	1.03
DEP 14	CDE 14	70	17	136	100	35	100	2.2
DEP 22	CDE 22	85	23	170	130	45	124	4.7
DEP 30	CDE 30	105	25	200	150	50	148	6.9



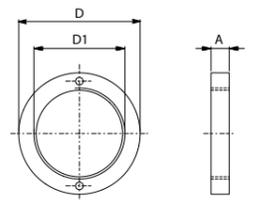
DEP

Model	Cylinder model	DIMENSIONS (mm)					
		D	D1	D2	D3	A	Weight kg
DEF 5	CDE 5	98	42	8.5	75	18	0.75
DEF 10	CDE 10	125	60	10.5	100	23	1.55
DEF 14	CDE 14	145	70	13	116	36	3.35
DEF 22	CDE 22	175	85	17	138	45	6
DEF 30	CDE 30	199	105	19	165	50	7.9



DEF

Model	Cylinder model	DIMENSIONS (mm)			
		D	D1	A	Weight kg
DEA 5	CDE 5	60	M42X1.5	9	0.1
DEA 10	CDE 10	80	M60X2	12	0.2
DEA 14	CDE 14	94	M70X2	16	0.35
DEA 22	CDE 22	110	M85X2	20	0.65
DEA 30	CDE 30	135	M105X2	22	1.05



DEA