CHIARAVALLI GROUP SpA

MECHANICAL WORM SCREW JACKS

CHIARAVALLI® GROUP SpA

MECHANICAL WORM SCREW JACKS

The Chiaravalli group is the technological partner that you should turn to knowing that reliability and respect are values commonly shared.

YOUR IDEAS ALWAYS ON THE MOVE

CHIARAVALLI GROUP SpA

THE CUSTOMER: ALWAYS AT THE CENTRE OF OUR ATTENTION.

The Chiaravalli group is a dynamic, modern company oriented in fulfilling customers needs and desires.

Human progress has always been based on mechanical application and discovery that stem from human intutition and genius.

Mechanics: the genetic heritage of Chiaravalli Group

The Chiaravalli Group, always aware of the needs of the market has found it necessary to provide its long-standing customers with complete, steady up-dated information about its products 24 hours a day 365 days in a year.

This attention comes from B2B, which is the direct consequence of our interest and dedication to our customers. It is an advanced system of research, purchasing and delivery of all Chiaravalli products. B2B Chiaravalli Group becomes a virtual extension of the customer's warehouse.

business2business

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The new series of mechanical screw jack CHIARAVALLI, named CHS, is a product, the innovation of it is due to modularity whitch allowins to supply a customized product in reasonable times.
The coupling with electric motors (either on normal, motor brake or explosion-proof motors) is guaranteed thanks to the predisposition to IEC B5 and B14 flanges.
This type of worm gear screw jack is used in many fields where it is necessary to lift considerable weights, such as automated production lines for sheet metal machinery, packaging, printing, textiles, plastics, food, renewable energy and more.

PRODUCT FEATURES

- modularity
- customization
- high strength cast iron case
- hardened and ground worm gear
- long life lubrication

CHS Series screw jacks are manufactured in 5 sizes, customizable with all the accessories included in the catalogue, according to customers' requirements.

CHS-_-__-C____-R__-__-__-___-PAM___B__--_,__Kw-_P-_-SP_____

SIZE
1 - 2 - 3 - 4 - 5

TRANSLATING SCREW **TS**
ROTATING SCREW **RS**

STROKE (mm)

RATIO

CHS 1 *RATIO* 5 - 20
CHS 2 - 3 - 4 - 5 *RATIO* 5 - 10 - 30

SCREW ENDS TS - TF - TL - TP

INPUT SHAFT CONFIGURATION

DX - Right, SX - Left, DE - Double input

INPUT MOTOR SHAFT

M3 - *Right*, M4 - *Left*,
M1 - *Right shaft DE*,
M2 - *Left shaft DE*

OPTIONALS

PR - PE - AR - AS - FC - PO - AM - CU - RG - CS - FCO - VRS - LO - CF - OX

MOTOR FLANGE SIZE

56 - 63 - 71 - 80 - 90 - 100 - 112

MOTOR FLANGE TYPE (B5 OR B14)

MOTOR POWER Kw (IF REQUIRED WITH MOUNTED MOTOR)

POLES MOTOR NUMBER: 2 - 4 - 6 (IF REQUIRED WITH MOUNTED MOTOR)

MOTOR TYPE: T-3PHASES, F-SELF BRAKING MOTOR (IF REQUIRED WITH MOUNTED MOTOR)

***SP** SPECIAL FEATURES - DESCRIPTION*

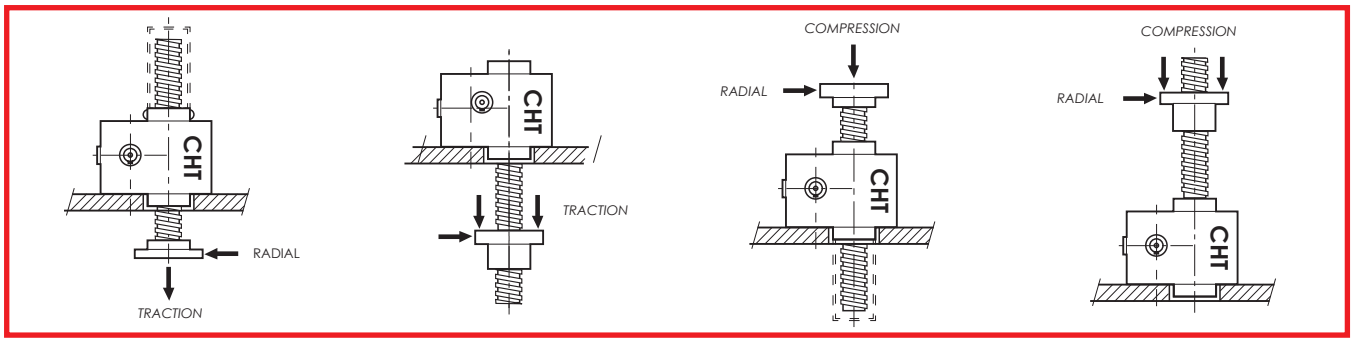
The worm gear based mechanical screw jack is one of the most economical and efficient mechanism for lifting and lowering loads, for push-pull applications. It can be used as a single unit or in multiple combinations, with manual or motorized drive. It is possible to link two or more screw jacks by shafts, couplings and right angle gear boxes, so that all the operations are perfectly syncronized.
CHIARAVALLI worm screw jacks are built for nominal loads from 0,5 to 10 tons.

ANALYSIS AND COMPOSITION OF LOAD

For the correct selection of the screw jack and, consequently, for its proper functioning, it is necessary to identify the actual load and the nature of the load, as better specified here below:
- STATIC loads
- DYNAMIC loads

These in turn can be:

- TRACTION loads
- COMPRESSION loads
- RADIAL loads
- COMPOUND loads



DYNAMIC LOADS

TRACTION

The maximum traction load which can be applied to the screw jack, is determined by several factors: heat capacity, temperature, service, impact or radial loads. Make use of tables on pages. 14 - 28 and page 11.

COMPRESSION

The maximum load used in compression is influenced by several factors: length of the threaded shaft, thermal capacity, shock and radial loads, temperature and type of service. Make use of tables on pages 14 - 28.
In addition, the load causes a deflection of the same, thus requiring a further examination to be carried out using the table on page 12, according to the Eulero's formula, linked to the type of external guides, so as to determine the maximum load.

RADIAL

In dynamic applications radial loads ARE NOT ALLOWED.

OVERTURNING MOMENT

As well as for radial loads, overturning moment are not allowed: overcome the problem by using appropriate sized external guides, that will avoid to subject the screw jack to such loads.

STATIC LOADS

TRACTION

The maximum load in tension applied to the Screw Jack is the max one foreseen by the tables of use on pages 14-28.

COMPRESSION

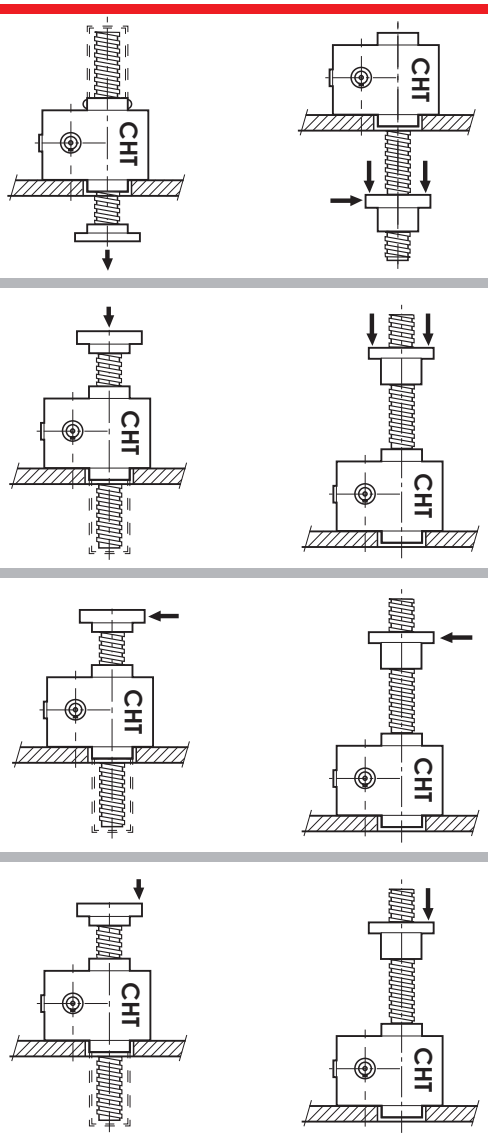
The maximum load used in compression is influenced by the length of the threaded shaft, and can be checked in the chart on page 12, according to Eulero's formula, linked in to the type of external guides.

RADIAL

These special loads cause a lateral shift of the shaft, provoking a dangerous deflection which would reduce the capacity of the screw jack. These therefore must be avoided.

OVERTURNINGS LOADS

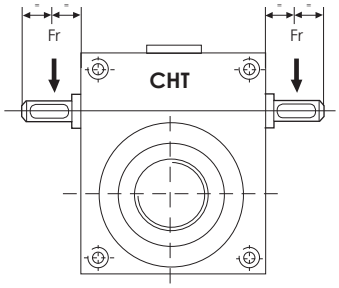
As well as for radial loads, overturning moment are not allowed: overcome the problem by using appropriate sized external guides, that will avoid to subject the screw jack to such loads.



WORM SCREW LOAD (INPUT SHAFT)

MAXIMUM RADIAL LOAD (Fr)

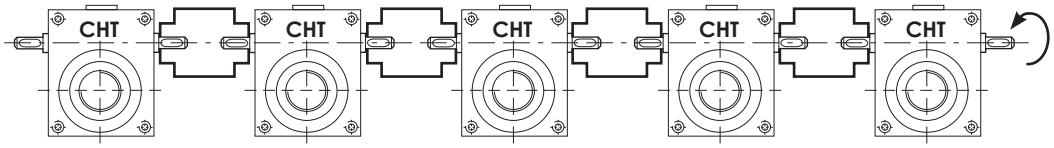
The maximum load on the input shaft of the jack (worm screw) must not exceed the values specified in the table below, measured at half shaft.



SIZE	CHS 1	CHS 2	CHS 3	CHS 4	CHS 5
Fr (daN)	**10**	**22**	**45**	**60**	**60**

TORQUE (daNm) (INPUT SHAFT)

For applications with multiple screw jack mounted in series, it is necessary not to exceed the values specified in the table below:



SIZE MT (daNm)	CHS 1 10	CHS 2 22	CHS 3 45	CHS 4 60	CHS 5 60
Fast speed (1/5)	2,30	5,40	7,00	49,00	49,00
Normal Speed (1/10-1/20)	2,30	5,40	15,50	13,00	13,00
Slow Speed (1/30)	-	4,20	18,50	15,50	15,50

VIBRATIONS

CHIARAVALLI jacks, with threaded shafts, are absolutely IRREVERSIBLE, special braking systems to maintain the set positionso are not required.
If they should be subjected to high vibrations, we do suggest to brake the input shaft (for example by using a self-braking electric motor).

MANUAL HANDLING

All CHIARAVALLI screw jacks can be operated manually. The following table shows the maximum load, assuming that a 250 mm diameter wheel is put at input jack to and 5 Kg force is applied to that wheel. Higher loads can be obtained by inserting a CHIARAVALLI gear box between the wheel and the jack or by increasing the wheel diameter.

Max "C" load in daN

SIZE	CHS 1	CHS 2	CHS 3	CHS 4	CHS 5
Fast Speed (1/5)	500	1000	2000	1500	1000
Normal Speed (1/10-1/20)	500	1000	2500	2900	2000
Slow Speed (1/30)	-	1000	2500	5000	4300

DRIVE BY ELECTRIC MOTOR

CHIARAVALLI series of screw jacks is provided for the connection with electric motors. The tables from pages. 14 to 28 define the engine power and the torque at the start-up of dynamic load, the reduction ratio and the linear speed, related to a use of 30% out of 10 minutes of operation.

MECHANICAL EFFICIENCY

The mechanical efficiency is shown in the table on pages 10-19. In the assembly of several jacks, to calculate the total efficiency of the transmission, it should be considered a decrease of 5% performance by each screw jack, for example:
- 2 jacks 95%
- 3 jacks 90% etc.. etc..

HEATING

CHIARAVALLI screw jack, being an IRREVERSIBLE machine, has a relatively low mechanical efficiency, so a certain amount of installed power will turn into heat, bringing the jack, if used correctly, to a maximum temperature of 80 ° C.

LOAD

From the tables on pages 14-23 you can detect the maximum loads for each screw jack not to be exceeded. To select the jack, it is necessary to apply also the coefficients stated below, relating to temperature and duty cycle. If different from the calculation conditions, they can change the actual load. Also check the maximum buckling load from the table on page 12, which changes according to the length of the lifting screw.

OPERATING TEMPERATURE

All data mentioned in this catalogue refer to a room temperature of 20° C. For different room temperatures it is necessary to derive the correction "x" factor from the table here below. For the JACK CORRECT CAPACITY, multiply the jack load capacity by then "x" factor.

ROOM TEMPERATURE	10°	20°	30°	40°	50°	60°	70°	80°
"X" Factor	1,25	1	0,8	0,7	0,5	0,3	0,2	0,1

OPERATION - SERVICE FACTOR

The tables on pages 11-15 refer to a service of 30% in 10 minutes and at a room temperature of 20° C. For different services, it is necessary to find the "SF" Service Factor relating to the service required by consulting the chart here below and multiplying the dynamic load factor such factor.

% OUT OF 10 MINUTES	30%	40%	50%	60%	70%	80%	90%	100%
"SF" Factor	1	1,1	1,3	1,6	2	2,5	3	5

POWER AND INPUT TORQUE

See the tables from page 14 to page 28: for the boxes with a light blue background consult our technical department.

LUBRICATION

CHIARAVALLI screw jacks are lubricated with a long life lithium soap grease AGIP GR MU EP2 and fitted with grease lubricator, for subsequent operations.

LUBRICATION INTERVALS:

normal working conditions: once a month
heavy work conditions: once a week
continuous working conditions: foresee lubrication system.

LUBRICATION OIL (OPTIONAL)

On request, it is possible to have oil lubrication.
Here below the recommended types of oil:

MOBIL	GEAR 630
SHELL	OMALA 220
IP	MELLANA 220

LUBRIFICATION LIFTING SCREW

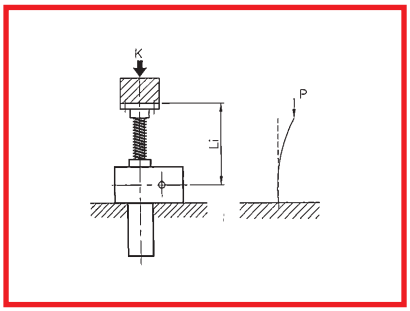
A correct life of CHIARAVALLI screw jack also depends on the lifting screw good lubrication, which must be carried out not later than approximately 500 hours of normal working. Heavy duty or special environmental conditions reduce this lubrication interval.
The recommended lubricants for this operation are:
TOTAL CERAN WR2 - BECHEM-RHUS BERUTOX M 21 KN

USE ISTRUCTION

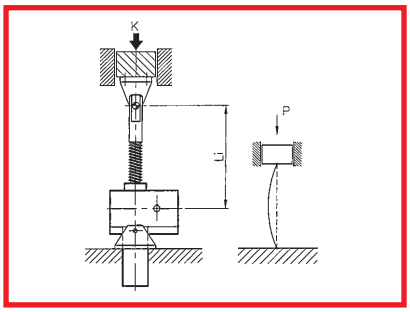
STROKE - 2000 mm maximum standard stroke
Longer strokes are made on request.
SPEED' - the linear speed that can be used by screw jacks depends on several factors:
TYPE OF SCREW JACK and transmission ratio
THERMAL CAPACITY
DYNAMIC LOAD
ROOM TEMPERATURE
SERVICE
The tables on pages 24 - 28 define, according to the load, the power required torque and the speed limit.

CRITICAL COMPRESSION LOAD

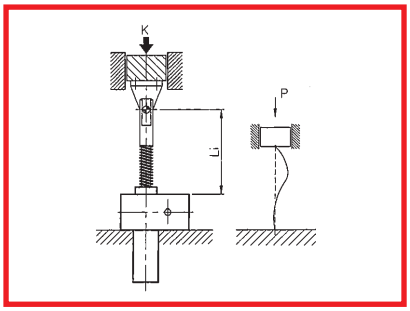
SIZE				CHS 1	CHS 2	CHS 3	CHS 4	CHS 5
Deflection lengh Li (mm)				kN	kN	kN	kN	kN
Eulero 1	Eulero 2	Eulero 3	Eulero 4					
100	200	285	400	5,00	10,00	25,00	50,00	100,00
125	250	355	500	5,00	10,00	25,00	50,00	100,00
150	300	425	600	5,00	10,00	25,00	50,00	100,00
175	350	495	700	5,00	10,00	25,00	50,00	100,00
200	400	565	800	5,00	10,00	25,00	50,00	100,00
225	450	635	900	4,00	7,10	25,00	50,00	100,00
250	500	710	1000	3,30	5,80	25,00	50,00	100,00
275	550	780	1100	2,75	4,80	22,80	50,00	100,00
300	600	850	1200	2,30	4,00	19,40	50,00	100,00
325	650	920	1300	2,00	3,40	16,50	50,00	100,00
350	700	990	1400	1,70	3,00	14,20	50,00	100,00
375	750	1060	1500	1,50	2,60	12,40	45,60	100,00
400	800	1130	1600	1,30	2,20	10,90	40,90	100,00
425	850	1200	1700		2,00	9,60	36,20	100,00
450	900	1275	1800		1,80	8,60	32,30	100,00
475	950	1345	1900		1,60	7,80	29,00	100,00
500	1000	1415	2000		1,40	7,00	26,10	97,40
525	1050	1485	2100			6,30	23,80	90,80
550	1100	1555	2200			5,80	21,60	84,10
575	1150	1625	2300			5,30	19,80	77,40
600	1200	1700	2400			4,80	18,10	71,00
625	1250	1770	2500			4,50	16,80	65,50
650	1300	1840	2600			4,10	15,50	60,50
675	1350	1910	2700			3,80	14,40	56,10
700	1400	1980	2800			3,60	13,30	52,20
725	1450	2050	2900				12,50	48,60
750	1500	2120	3000				11,60	45,50
775	1550	2200	3100				10,90	42,60
800	1600	2270	3200				10,20	40,00
825	1650	2340	3300				9,60	37,60
850	1700	2400	3400				9,00	35,40
875	1750	2475	3500				8,50	33,40
900	1800	2546	3600				8,00	31,60
925	1850	2620	3700				7,60	29,90
950	1900	2690	3800				7,20	28,30
975	1950	2760	3900				6,90	26,90
1000	2000	2830	4000				6,60	25,60
1050	2100	2970	4200					23,20
1100	2200	3110	4400					21,10
1150	2300	3250	4600					19,30
1200	2400	3400	4800					17,80
1250	2500	3540	5000					16,40
1300	2600	3680	5200					15,10



EULERO 1



EULERO 2



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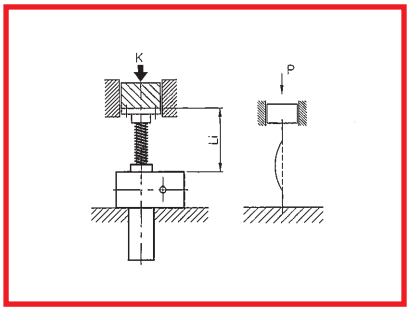
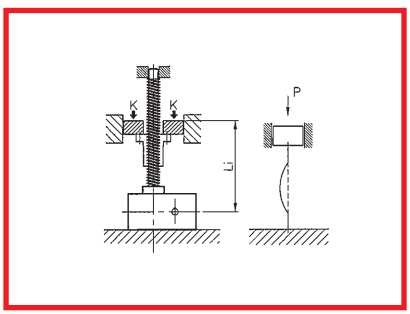
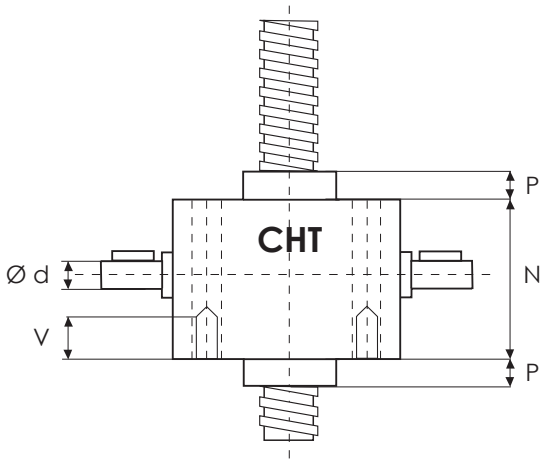


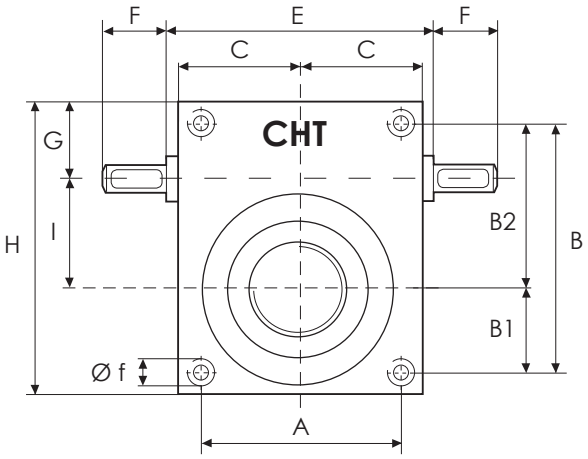
EULERO 4



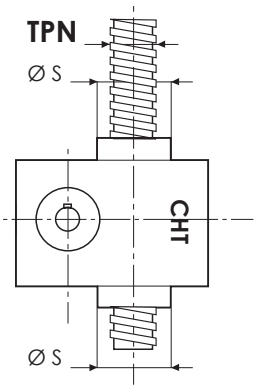
EULERO 4

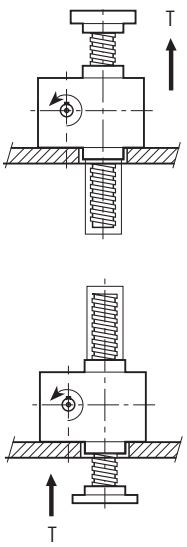
SCREW JACK MODEL		CHS 1
LOAD	daN (Kg)	500
TPN SCREW	DIAMETER mm PITCH mm	18 4
GEAR RATIOS	FAST SPEED NORMAL SPEED	5:1 20:1
STROKE FOR INPUT REV.	FAST SPEED NORMAL SPEED	0,80 0,20
EFFICIENCY	FAST SPEED NORMAL SPEED	25,5% 23,8%
JACK WEIGHT (Kg)		2,4
SCREW WEIGHT TPN X 100 mm (Kg)		0,16
CASE MATERIAL		G25
GREASE QTY (Kg)		0,06
GREASE TYPE		AGIP GR MU EP2
OPERATING TEMPERATURE		-5° C +80° C





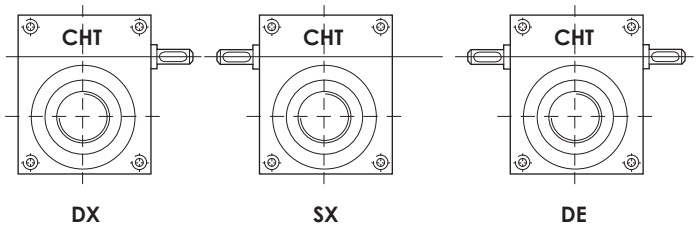
TRANSLATING SCREW

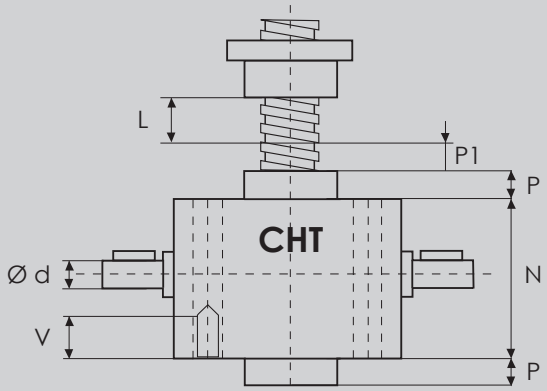




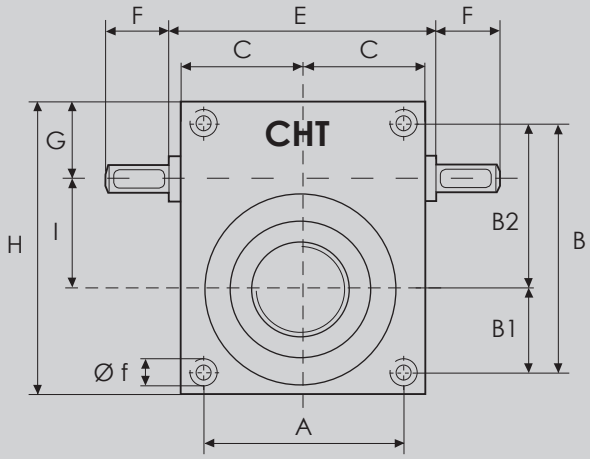
	A	B	B1	B2	C	E	F	G	H
CHS1	56	80	28	52	36	-	20	30	96
	I	N	P	P1	V	Ø d	Ø f	Ø s	TPN
CHS1	30	50	10	15	*	9	8,4	30	18x4

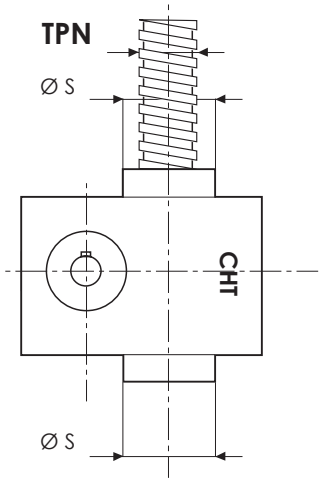
* Tapped holes on request

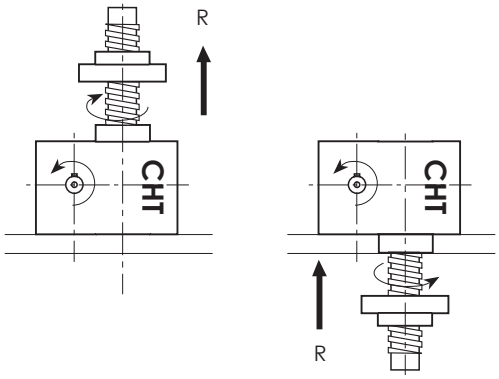




L = STROKE

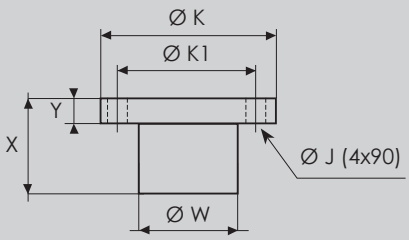






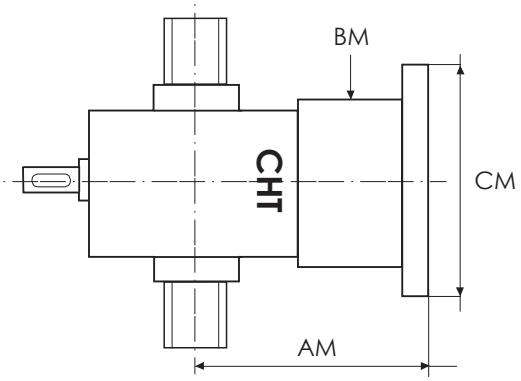
ROTATING SCREW

BRONZE NUT



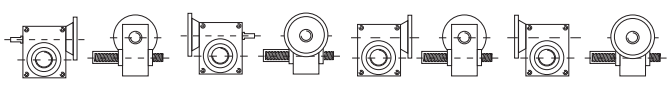
	X	Y	Ø W	Ø K	Ø K1	Ø J
CHS1	45	12	26	54	40	7

MOTOR ADAPTOR



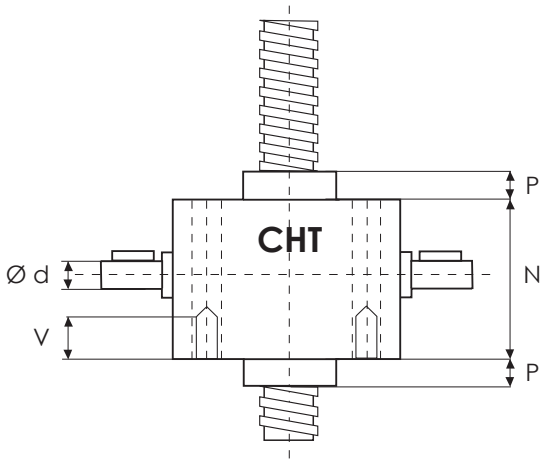
MOTOR	FLANGE TYPE	CM	AM	BM
GR. 56	B5	120	94	49
	B14	80		
GR. 63	B5	140		
	B14	90		

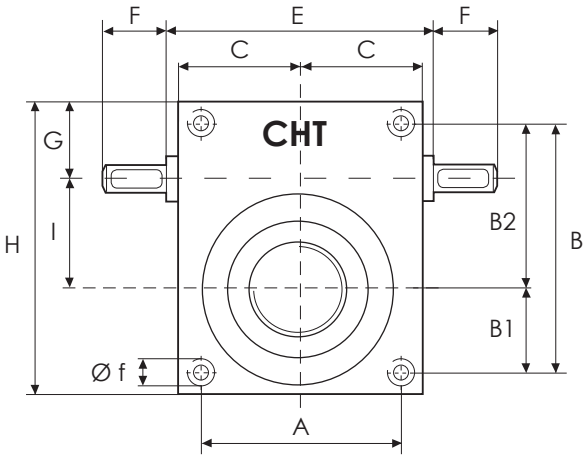
CONFIGURATION



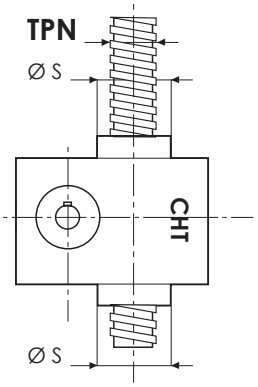
M1 M2 M3 M4

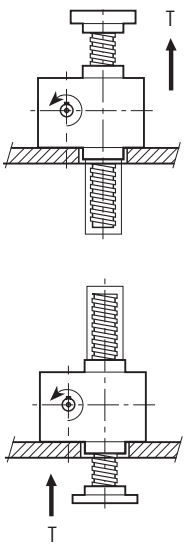
SCREW JACK MODEL		CHS 2
LOAD	daN (Kg)	1000
TPN SCREW	DIAMETER mm PITCH mm	20 4
GEAR RATIOS	FAST SPEED NORMAL SPEED SLOW SPEED	5:1 10:1 30:1
STROKE FOR INPUT REV.	FAST SPEED NORMAL SPEED SLOW SPEED	0,80 0,40 0,13
EFFICIENCY	FAST SPEED NORMAL SPEED SLOW SPEED	24,8% 23,1% 21,5%
JACK WEIGHT (Kg)		4,0
SCREW WEIGHT TPN X 100 mm (Kg)		0,20
CASE MATERIAL		G25
GREASE QTY (Kg)		0,1
GREASE TYPE	AGIP GR MU EP2	
OPERATING TEMPERATURE	-5° C +80° C	





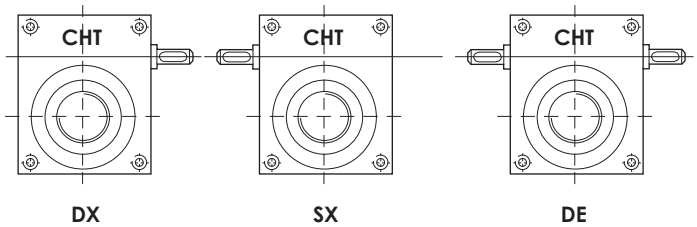
TRANSLATING SCREW

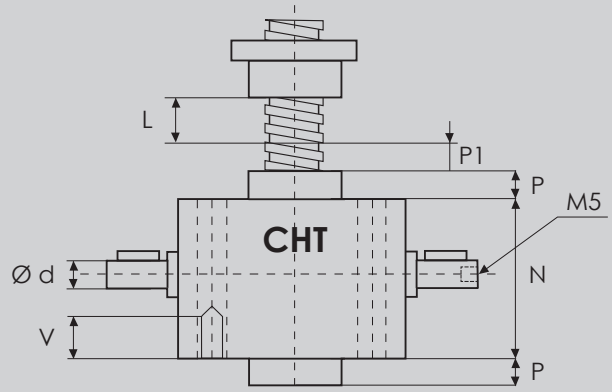




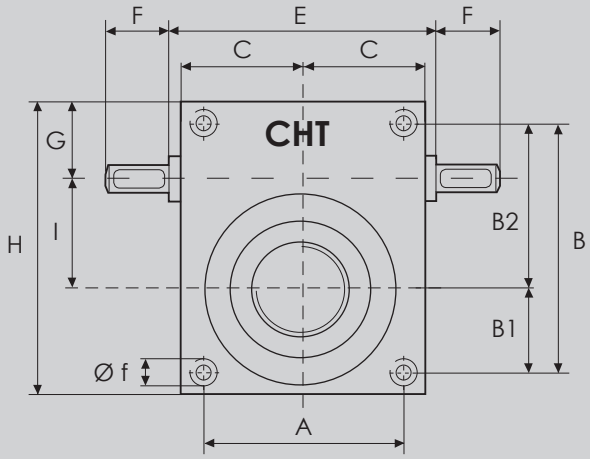
	A	B	B1	B2	C	E	F	G	H
CHS2	80	85	30	55	49	-	23,5	33,5	102
	I	N	P	P1	V	Ø d	Ø f	Ø s	TPN
CHS2	30	70	20	15	*	12	8,4	44	20x4

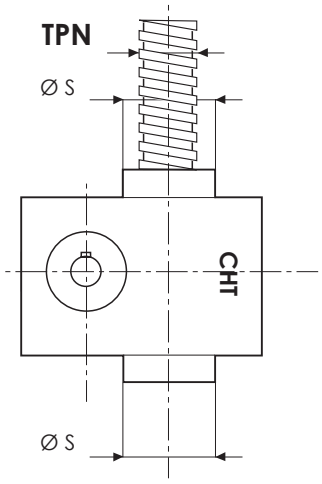
* Tapped holes on request

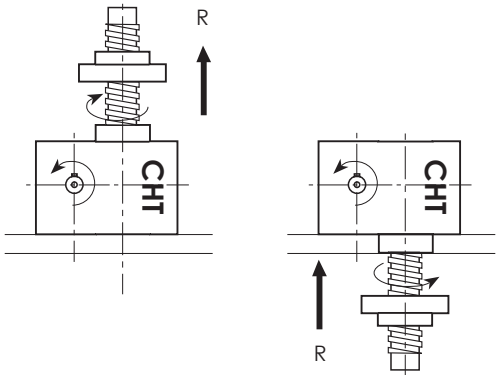




L = STROKE

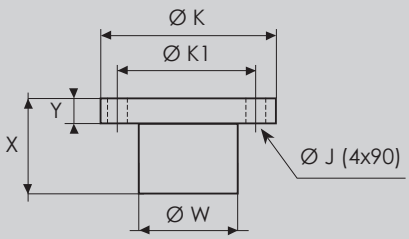






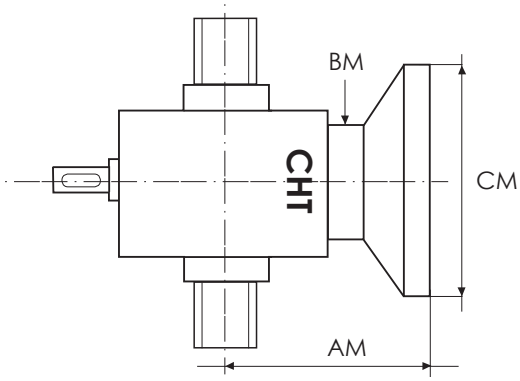
ROTATING SCREW

BRONZE NUT



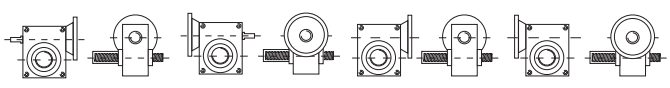
	X	Y	Ø W	Ø K	Ø K1	Ø J
CHS2	45	12	32	60	45	7

MOTOR ADAPTOR



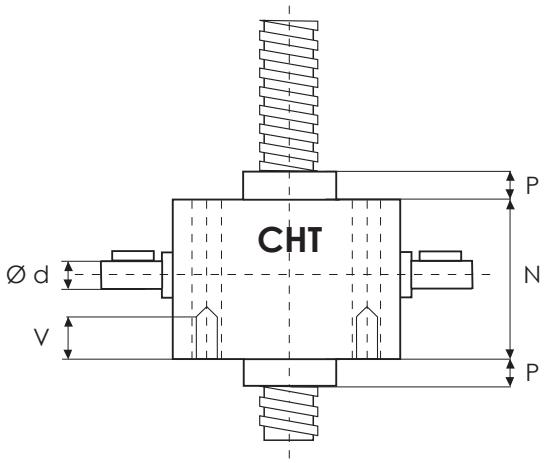
MOTOR	FLANGE TYPE	CM	AM	BM
GR. 63	B5	140	84	64
	B14	90		
GR. 71	B5	160		
	B14	105		

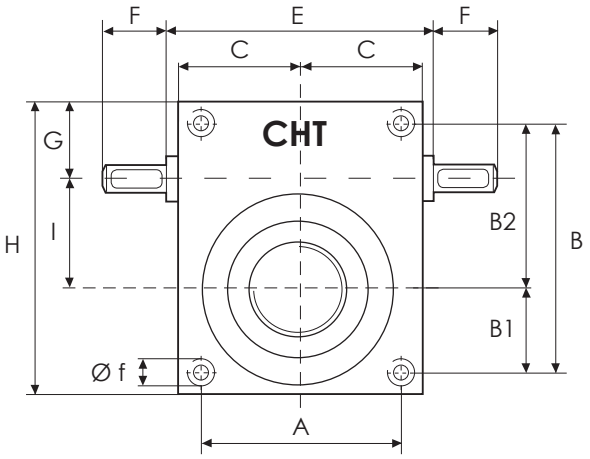
CONFIGURATION



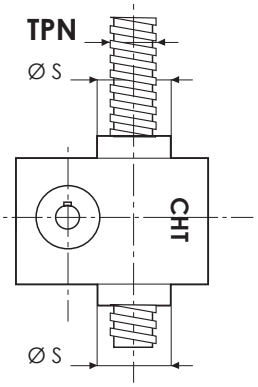
M1 M2 M3 M4

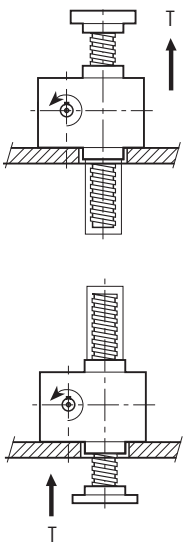
SCREW JACK MODEL		CHS 3
LOAD	daN (Kg)	2500
TPN SCREW	DIAMETER mm PITCH mm	30 6
GEAR RATIOS	FAST SPEED NORMAL SPEED SLOW SPEED	5:1 10:1 30:1
STROKE FOR INPUT REV.	FAST SPEED NORMAL SPEED SLOW SPEED	1,20 0,60 0,20
EFFICIENCY	FAST SPEED NORMAL SPEED SLOW SPEED	22,5% 21,0% 19,5%
JACK WEIGHT (Kg)		9,0
SCREW WEIGHT TPN X 100 mm (Kg)		0,48
CASE MATERIAL		G25
GREASE QTY (Kg)		0,3
GREASE TYPE	AGIP GR MU EP2	
OPERATING TEMPERATURE	-5° C +80° C	





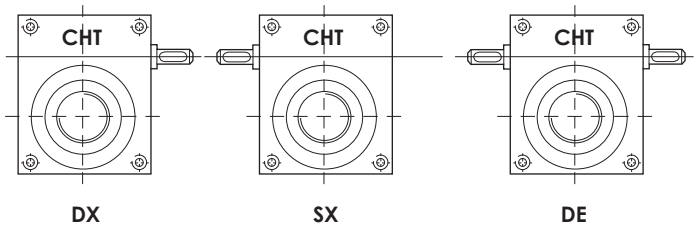
TRANSLATING SCREW

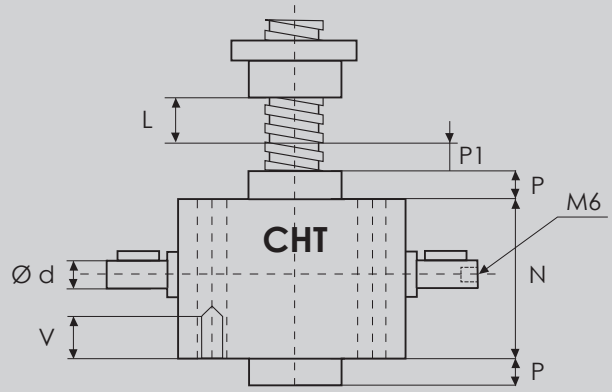




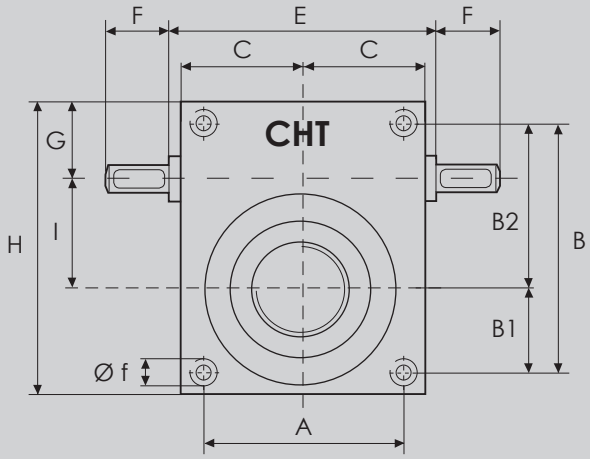
	A	B	B1	B2	C	E	F	G	H
CHS3	102	131	48	83	64	-	39	42,5	150
	I	N	P	P1	V	Ø d	Ø f	Ø s	TPN
CHS3	50	90	25	20	*	20	10,4	60	30x6

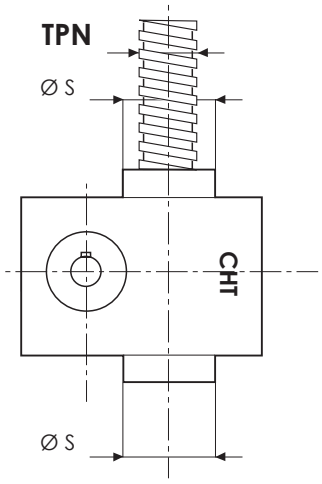
* Tapped holes on request

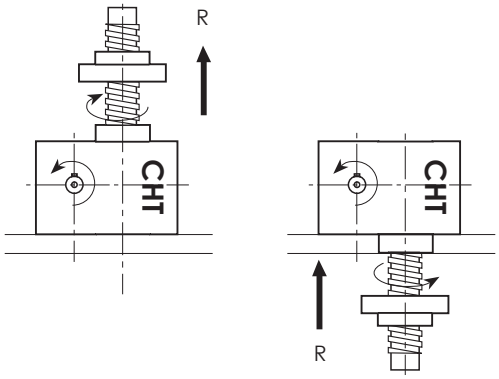




L = STROKE

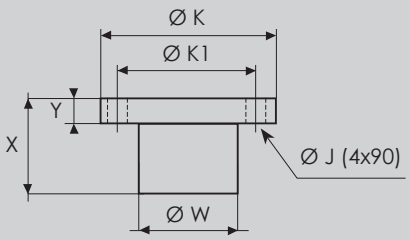






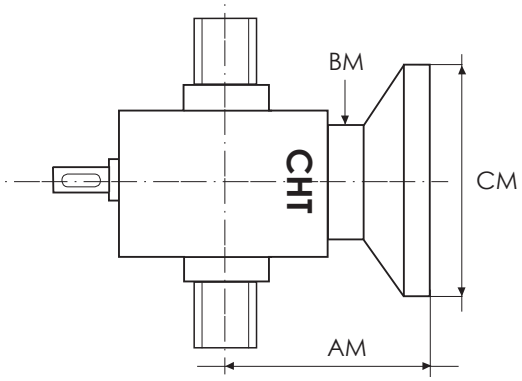
ROTATING SCREW

BRONZE NUT



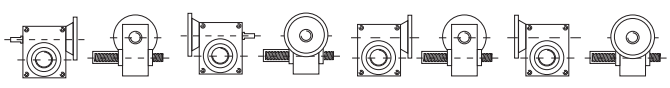
	X	Y	Ø W	Ø K	Ø K1	Ø J
CHS3	48	14	46	80	64	7

MOTOR ADAPTOR



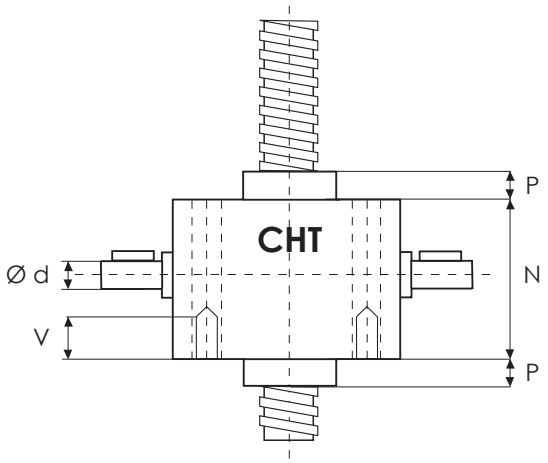
MOTOR	FLANGE TYPE	CM	AM	BM
GR. 63	B5 B14	140 90	112,5	84
GR. 71	B5 B14	160 105		
GR. 80	B5 B14	200 120		

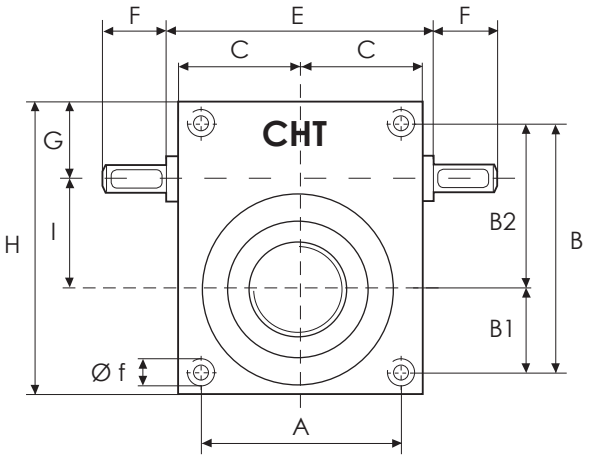
CONFIGURATION



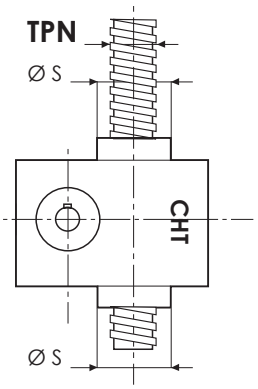
M1 M2 M3 M4

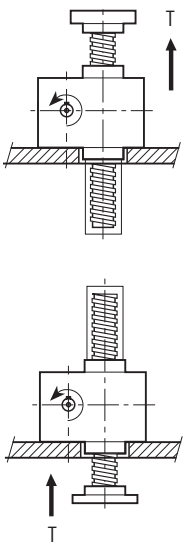
SCREW JACK MODEL		CHS 4
LOAD	daN (Kg)	5000
TPN SCREW	DIAMETER mm PITCH mm	40 7
GEAR RATIOS	FAST SPEED NORMAL SPEED SLOW SPEED	5:1 10:1 30:1
STROKE FOR INPUT REV.	FAST SPEED NORMAL SPEED SLOW SPEED	1,40 0,70 0,23
EFFICIENCY	FAST SPEED NORMAL SPEED SLOW SPEED	21,0% 19,6% 18,2%
JACK WEIGHT (Kg)		20
SCREW WEIGHT TPN X 100 mm (Kg)		0,9
CASE MATERIAL		G25
GREASE QTY (Kg)		0,65
GREASE TYPE	AGIP GR MU EP2	
OPERATING TEMPERATURE	-5° C +80° C	





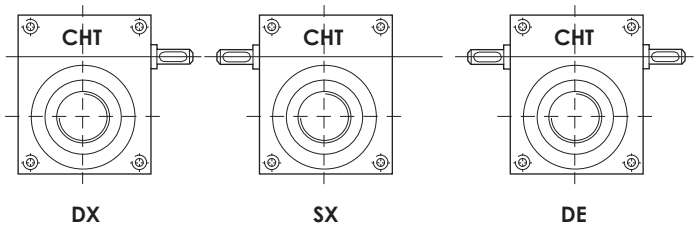
TRANSLATING SCREW

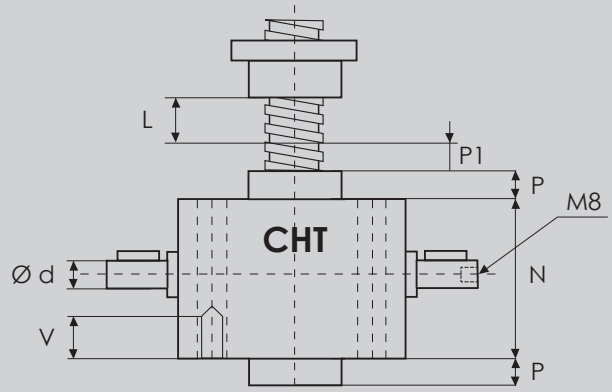




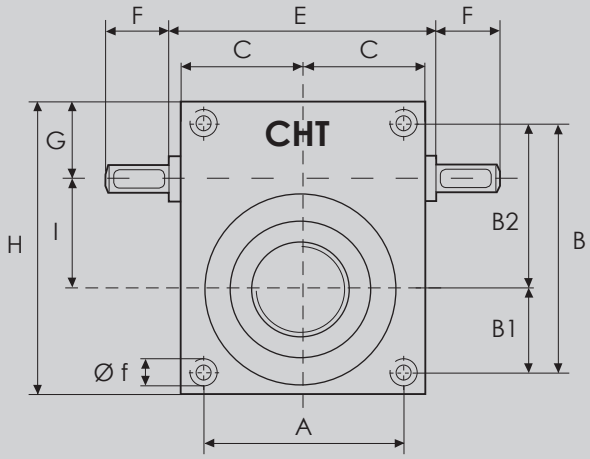
	A	B	B1	B2	C	E	F	G	H
CHS4	130	165	60	105	82,5	-	52,5	55	200
	I	N	P	P1	V	Ø d	Ø f	Ø s	TPN
CHS4	70	120	35	25	*	25	12,5	69	40x7

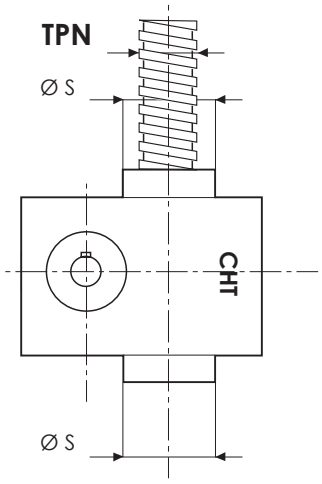
* Tapped holes on request

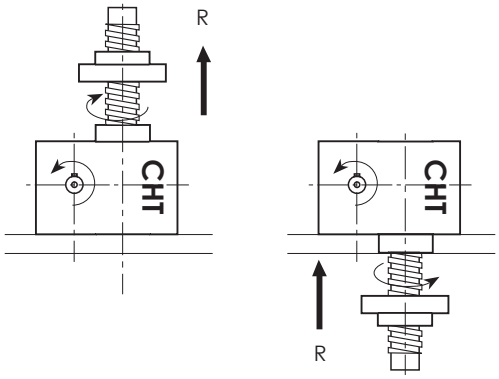




L = STROKE

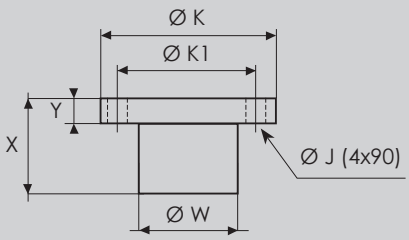






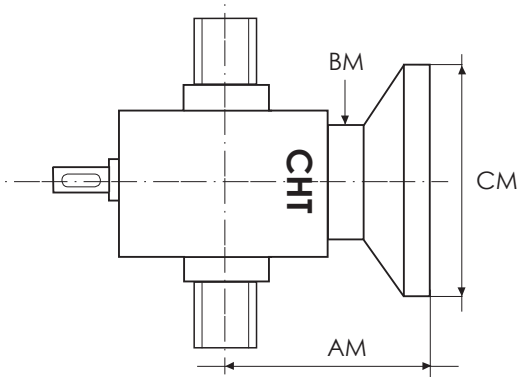
ROTATING SCREW

BRONZE NUT



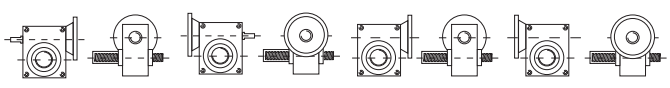
	X	Y	Ø W	Ø K	Ø K1	Ø J
CHS4	75	15	60	96	78	9

MOTOR ADAPTOR

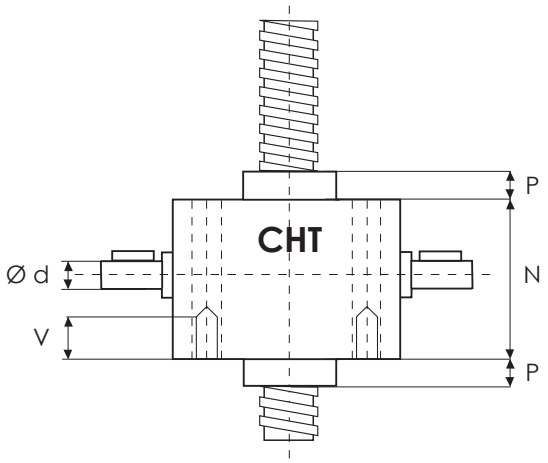


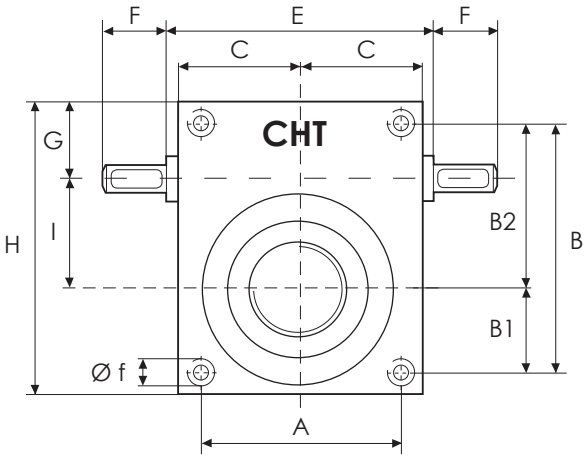
MOTOR	FLANGE TYPE	CM	AM	BM
GR. 80	B5 B14	200 120	140	108
GR. 90	B5 B14	200 140		
GR. 100/112	B5 B14	250 160		

CONFIGURATION

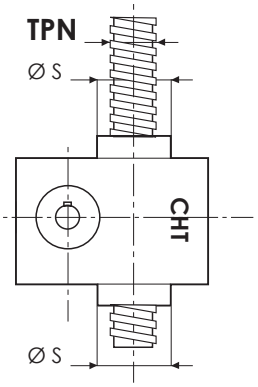


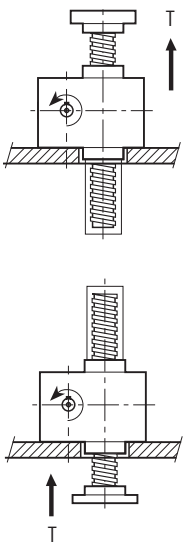
SCREW JACK MODEL		CHS 5
LOAD	daN (Kg)	10000
TPN SCREW	DIAMETER mm PITCH mm	55 9
GEAR RATIOS	FAST SPEED NORMAL SPEED SLOW SPEED	5:1 10:1 30:1
STROKE FOR INPUT REV.	FAST SPEED NORMAL SPEED SLOW SPEED	1,80 0,90 0,30
EFFICIENCY	FAST SPEED NORMAL SPEED SLOW SPEED	19,5% 18,2% 16,9%
JACK WEIGHT (Kg)		27
SCREW WEIGHT TPN X 100 mm (Kg)		1,7
CASE MATERIAL		G25
GREASE QTY (Kg)		1,0
GREASE TYPE	AGIP GR MU EP2	
OPERATING TEMPERATURE	-5° C +80° C	





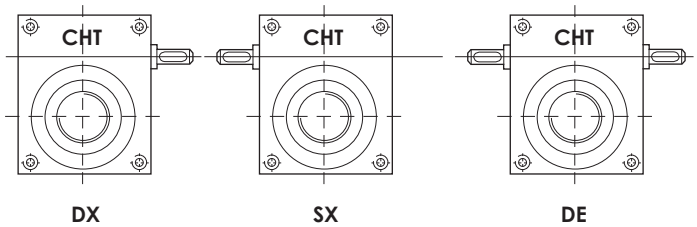
TRANSLATING SCREW

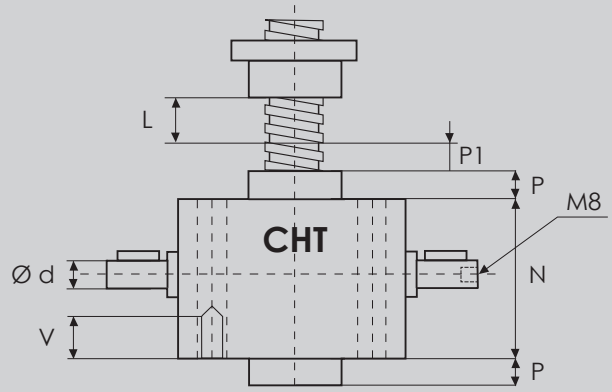




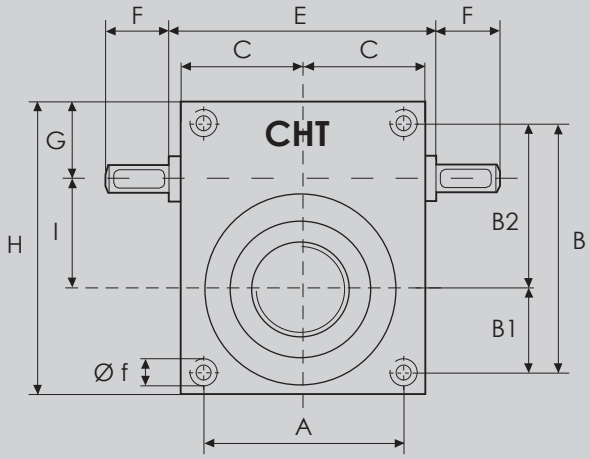
	A	B	B1	B2	C	E	F	G	H
CHS5	134	175	60	115	87,5	-	47,5	68	216
	I	N	P	P1	V	Ø d	Ø f	Ø s	TPN
CHS5	70	150	40	25	40	25	M20	90	55x9

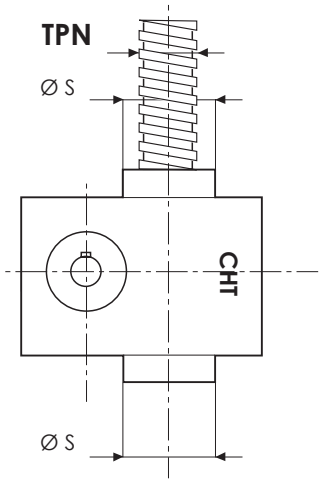
* Tapped holes on request

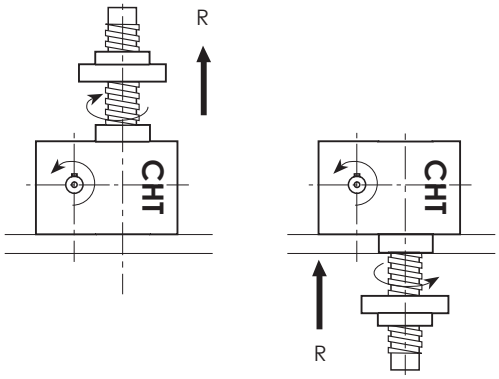




L = STROKE

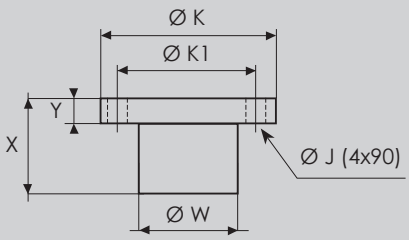






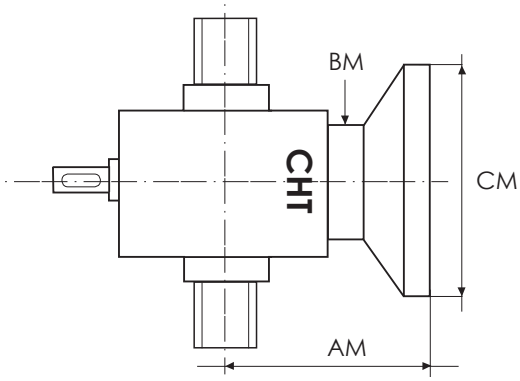
ROTATING SCREW

BRONZE NUT



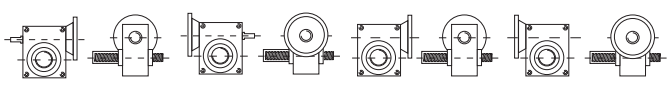
	X	Y	Ø W	Ø K	Ø K1	Ø J
CHS5	100	20	76	130	100	13

MOTOR ADAPTOR



MOTOR	FLANGE TYPE	CM	AM	BM
GR. 80	B5 B14	200 120	140	108
GR. 90	B5 B14	200 140		
GR. 100/112	B5 B14	250 160		

CONFIGURATION



M1 M2 M3 M4

POWER AND INPUT TORQUE

load daN			500		300		100		50	
Ratio	lifting speed mm	input rpm	Kw	daNm	Kw	daNm	Kw	daNm	Kw	daNm
5	1200	1500	0,39	0,25	0,24	0,15	0,08	0,05	0,07	0,04
	800	1000	0,26	0,25	0,16	0,15	0,07	0,05	0,07	0,04
	600	750	0,20	0,25	0,12	0,15	0,07	0,05	0,07	0,04
	40	50	0,07	0,25	0,07	0,15	0,07	0,05	0,07	0,04

load daN			500		300		100		50	
Ratio	lifting speed mm	input rpm	Kw	daNm	Kw	daNm	Kw	daNm	Kw	daNm
20	300	1500	0,11	0,07	0,07	0,04	0,07	0,04	0,07	0,04
	200	1000	0,07	0,07	0,07	0,04	0,07	0,04	0,07	0,04
	150	750	0,07	0,07	0,07	0,04	0,07	0,04	0,07	0,04
	10	50	0,07	0,07	0,07	0,04	0,07	0,04	0,07	0,04

POWER AND INPUT TORQUE

load daN			1000		600		100		50	
Ratio	lifting speed mm	input rpm	Kw	daNm	Kw	daNm	Kw	daNm	Kw	daNm
5	1200	1500	0,81	0,51	0,49	0,31	0,24	0,15	0,08	0,05
	800	1000	0,54	0,51	0,32	0,31	0,16	0,15	0,07	0,05
	600	750	0,40	0,51	0,24	0,31	0,12	0,15	0,07	0,05
	40	50	0,07	0,51	0,07	0,31	0,07	0,15	0,07	0,05

load daN			1000		600		100		50	
Ratio	lifting speed mm	input rpm	Kw	daNm	Kw	daNm	Kw	daNm	Kw	daNm
10	600	1500	0,43	0,28	0,26	0,17	0,13	0,08	0,07	0,03
	400	1000	0,29	0,28	0,17	0,17	0,09	0,08	0,07	0,03
	300	750	0,22	0,28	0,13	0,17	0,07	0,08	0,07	0,03
	20	50	0,07	0,28	0,07	0,17	0,07	0,08	0,07	0,03

load daN			1000		600		100		50	
Ratio	lifting speed mm	input rpm	Kw	daNm	Kw	daNm	Kw	daNm	Kw	daNm
30	200	1500	0,16	0,10	0,09	0,06	0,07	0,03	0,07	0,01
	133	1000	0,10	0,10	0,07	0,06	0,07	0,03	0,07	0,01
	100	750	0,08	0,10	0,07	0,06	0,07	0,03	0,07	0,01
	6,7	50	0,07	0,10	0,07	0,06	0,07	0,03	0,07	0,01

POWER AND INPUT TORQUE

load daN			2500		1500		750		250	
Ratio	lifting speed mm	input rpm	Kw	daNm	Kw	daNm	Kw	daNm	Kw	daNm
5	1800	1500	3,33	2,12	2,00	1,27	1,00	0,64	0,33	0,21
	1200	1000	2,22	2,12	1,33	1,27	0,67	0,64	0,22	0,21
	900	750	1,67	2,12	1,00	1,27	0,50	0,64	0,17	0,21
	60	50	0,11	2,12	0,07	1,27	0,07	0,64	0,07	0,21

load daN			2500		1500		750		250	
Ratio	lifting speed mm	input rpm	Kw	daNm	Kw	daNm	Kw	daNm	Kw	daNm
10	900	1500	1,79	1,14	1,07	0,68	0,54	0,34	0,18	0,11
	600	1000	1,19	1,14	0,71	0,68	0,36	0,34	0,12	0,11
	450	750	0,89	1,14	0,54	0,68	0,27	0,34	0,09	0,11
	30	50	0,07	1,14	0,07	0,68	0,07	0,34	0,07	0,11

load daN			2500		1500		750		250	
Ratio	lifting speed mm	input rpm	Kw	daNm	Kw	daNm	Kw	daNm	Kw	daNm
30	300	1500	0,64	0,41	0,38	0,24	0,19	0,12	0,07	0,04
	200	1000	0,43	0,41	0,26	0,24	0,13	0,12	0,07	0,04
	150	750	0,32	0,41	0,19	0,24	0,10	0,12	0,07	0,04
	10,0	50	0,07	0,41	0,07	0,24	0,07	0,12	0,07	0,04

POWER AND INPUT TORQUE

load daN			5000		3000		1500		500	
Ratio	lifting speed mm	input rpm	Kw	daNm	Kw	daNm	Kw	daNm	Kw	daNm
5	2100	1500	8,34	5,31	5,00	3,18	2,50	1,59	0,83	0,53
	1400	1000	5,56	5,31	3,33	3,18	1,67	1,59	0,56	0,53
	1050	750	4,17	5,31	2,50	3,18	1,25	1,59	0,42	0,53
	70	50	0,28	5,31	0,17	3,18	0,08	1,59	0,07	0,53

load daN			5000		3000		1500		500	
Ratio	lifting speed mm	input rpm	Kw	daNm	Kw	daNm	Kw	daNm	Kw	daNm
10	1050	1500	4,47	2,84	2,68	1,71	1,34	0,85	0,45	0,28
	700	1000	2,98	2,84	1,79	1,71	0,89	0,85	0,30	0,28
	525	750	2,23	2,84	1,34	1,71	0,67	0,85	0,22	0,28
	35	50	0,15	2,84	0,09	1,71	0,07	0,85	0,07	0,28

load daN			5000		3000		1500		500	
Ratio	lifting speed mm	input rpm	Kw	daNm	Kw	daNm	Kw	daNm	Kw	daNm
30	350	1500	1,60	1,02	0,96	0,61	0,48	0,31	0,16	0,10
	233,3	1000	1,07	1,02	0,64	0,61	0,32	0,31	0,11	0,10
	175,0	750	0,80	1,02	0,48	0,61	0,24	0,31	0,08	0,10
	11,7	50	0,07	1,02	0,07	0,61	0,07	0,31	0,07	0,10

Consult our technical department

POWER AND INPUT TORQUE

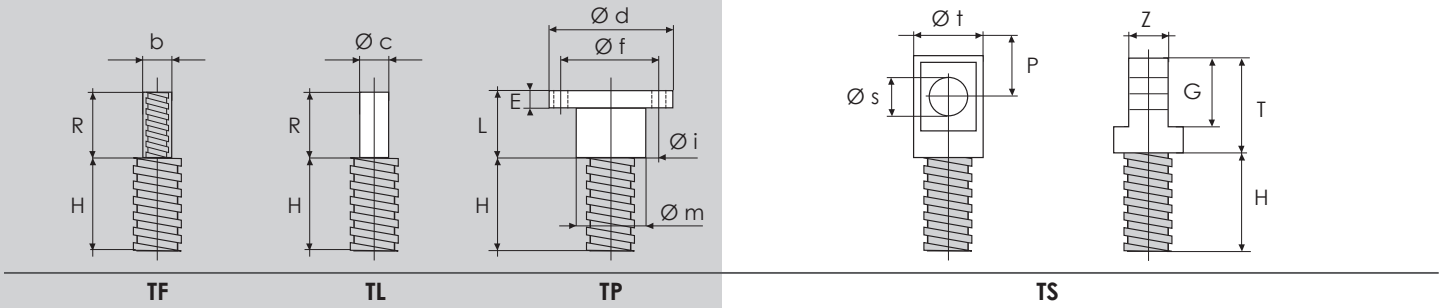
load daN			500		300		100		50	
Ratio	lifting speed	input rpm	*Kw*	*daNm*	*Kw*	*daNm*	*Kw*	*daNm*	*Kw*	*daNm*
5	2700	1500	23,09	14,70	11,54	7,35	6,93	4,41	2,31	1,47
	1800	1000	15,39	14,70	7,70	7,35	4,62	4,41	1,54	1,47
	1350	750	11,54	14,70	5,77	7,35	3,46	4,41	1,15	1,47
	90	50	0,77	14,70	0,38	7,35	0,23	4,41	0,08	1,47

load daN			500		300		100		50	
Ratio	lifting speed *mm*	input rpm	*Kw*	*daNm*	*Kw*	*daNm*	*Kw*	*daNm*	*Kw*	*daNm*
10	1350	1500	12,37	7,87	6,18	3,94	3,71	2,36	1,24	0,79
	900	1000	8,25	7,87	4,12	3,94	2,47	2,36	0,82	0,79
	675	750	6,18	7,87	3,09	3,94	1,86	2,36	0,62	0,79
	45	50	0,41	7,87	0,21	3,94	0,12	2,36	0,07	0,79

load daN			500		300		100		50	
Ratio	lifting speed *mm*	input rpm	*Kw*	*daNm*	*Kw*	*daNm*	*Kw*	*daNm*	*Kw*	*daNm*
30	450	1500	4,44	2,83	2,22	1,41	1,33	0,85	0,44	0,28
	300	1000	2,96	2,83	1,48	1,41	0,89	0,85	0,30	0,28
	225	750	2,22	2,83	1,11	1,41	0,67	0,85	0,22	0,28
	15	50	0,15	2,83	0,07	1,41	0,07	0,85	0,07	0,28

SCREW ENDS

For rotating screw **RS** only screw ends type **TL**



* N° 4 a 90° Ø c = + 0 - 0,10

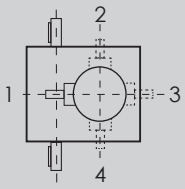
TYPE	H	R	b	L	E	P	G	T	Z	Øc	Ød	Øf	Øi*	Øm	Øs	Øt
CHS 1	15	20	12 x 1.5	14	8	20	40	70	20	12	54	40	7	26	16	30
CHS 2	15	20	14 x 1.5	21	8	20	40	75	25	15	79	60	11	39	20	38
CHS 3	20	30	20 x 2.5	23	10	25	50	95	30	20	89	67	11	46	25	48
CHS 4	25	30	30 x 3.5	30	15	35	70	125	40	30	109	85	13	60	35	68
CHS 5	25	50	36 x 4	50	20	50	100	180	60	40	149	117	17	85	50	88

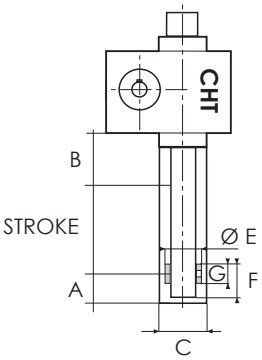
OPTIONALS

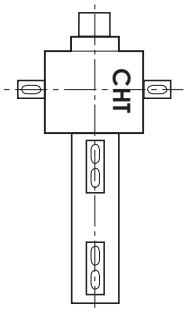
PE	ELASTIC BELLOW COVERING
PR	PROTECTION TUBE
AR	BACK STOP
AS	STOP PLATE
FC	LIMIT SWITCH
PO	SWAYING PROTECTION TUBE
AM	OVERSIZE SCREW
CU	WEARING TEST OF THE NUTS
RG	RECOVERY OF SLACK
CS	SAFETY NUTS
FCO	FLANGE FOR PIVOT GEARBOX
VRS	BALLSCREW
LO	OIL LUBRICATION
CF	CASE WITH THREAD FIXED HOLE
OX	INOX LIFTING SCREW

LIMIT SWITCH

For traslating screw **TS**
FC type

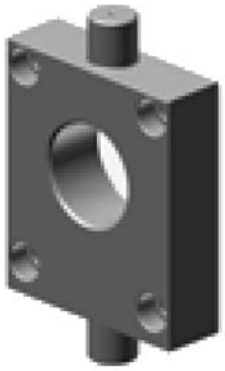


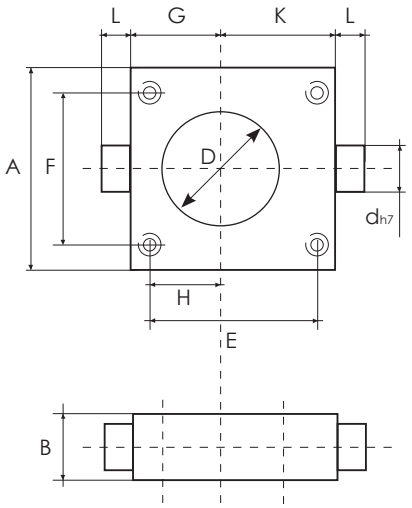




	A	B	Ø C	Ø E	F	G
CHS 1	40	40	34	22	20	16
CHS 2	40	40	48	36	20	18
CHS 3	50	50	65	52	20	20
CHS 4	60	60	74	61	20	20
CHS 5	60	60	95	82	20	20

FLANGE FOR PIVOT GEARBOX (FCO)



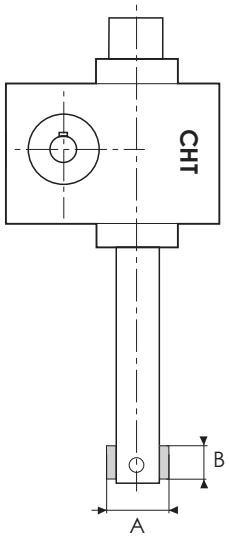


Dim.	CHS SERIES				
	1	**2**	**3**	**4**	**5**
B	20	25	30	40	50
Ø d_{h7}	15	20	25	35	45
D	34	48	64	75	100
H	28	30	48	60	60
E	80	85	131	165	175
F	56	80	102	130	134
A	72	98	128	165	175
G	36	38,5	57,5	75	78
K	60	63,5	92,5	125	138
L	15	20	20	30	35

STOP PLATE

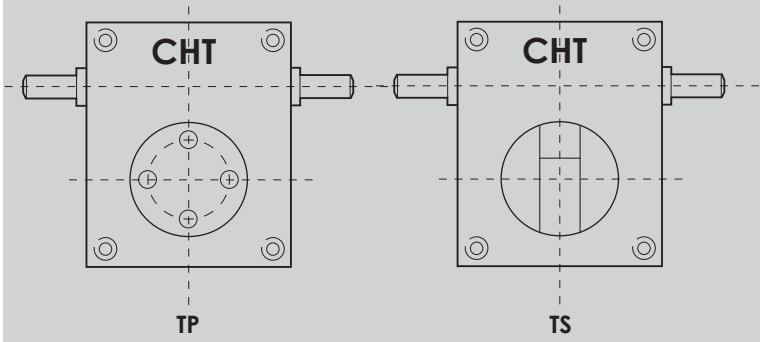
Traslating screw **TS**
AS type

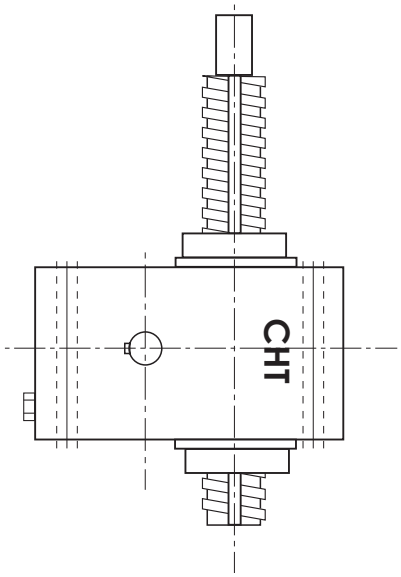
GR	A	B
CHS 1	22	16
CHS 2	36	18
CHS 3	52	20
CHS 4	61	20
CHS 5	82	20



BACK STOP

Traslating screw **TS**
AR type





OVERSIZE SCREW - AM

Only for RS esecution - rotating screw

For all size it is possible to fix screw with oversize diameter and picht.
For TS esecution - TRANSLATION SCREW - please consult our Technical office.

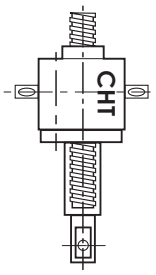
SAFETY NUTS

The application of an additional nut, only for the rotation of the worm wheel for TS series and for the nut for RS serie, without being submitted to loads, allows to the planet to work in safety, because, with the total closing of the nut, the load is supported by the direct opposite nut.

SWAYING PROTECTION TUBE - PO

ONLY FOR TS ESECUTION
TRANSLATING SCREW

One protection tube with a flange fixed to the jacket carter and one terminal with a loop allow a swaying fix.



SLACKS RECOVERY

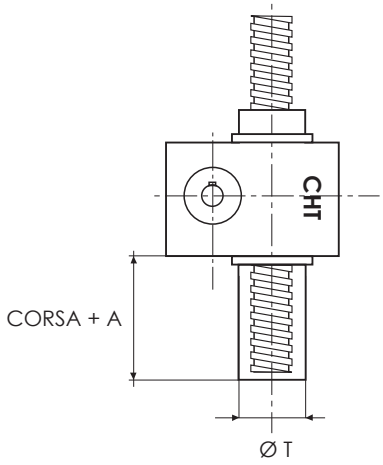
The functioning is based on the role of nuts along nuts. In the TS case the regulation on the jacks cover allows the slacks recovery.

WEARING TEST OF THE NUTS - CU

The application of an additional nut only for the rotation of the worm wheel, for TS series and for the nut for RS serie, without submitting it to loads, allows to control the conditions of jack wearing.

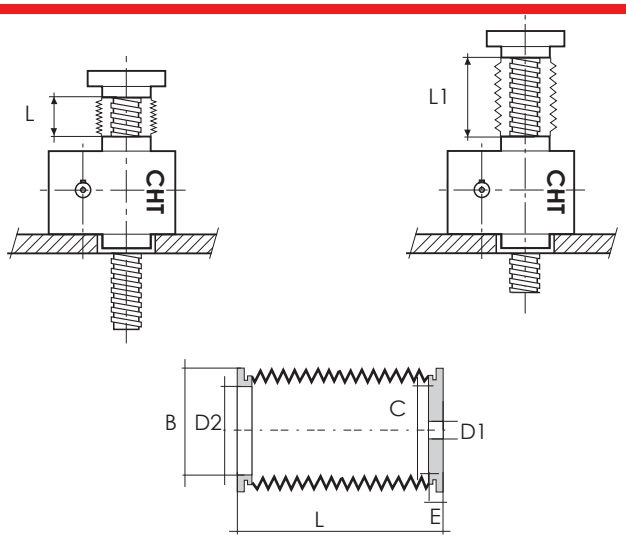
PROTECTION TUBE

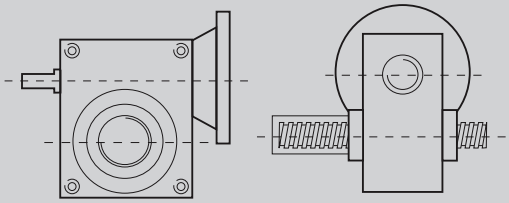
Size	CHS 1	CHS 2	CHS 3	CHS 4	CHS 5
T	34	48	65	74	95
A	25	35	40	50	60



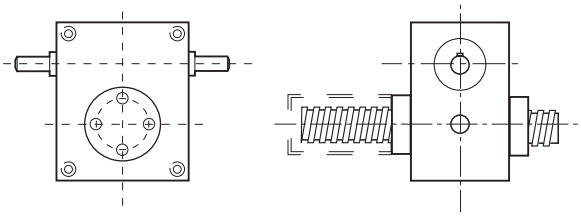
ELASTIC BELLOWS

Size	CHS 1	CHS 2	CHS 3	CHS 4	CHS 5
L	65	65	65	40	40
L1	400	400	400	220	220
B	83	83	83	106	106
C	50	50	50	70	70
mod.	1/400	1/400	1/400	2/220	2/220

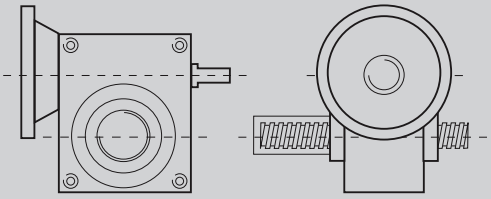




M1



DE



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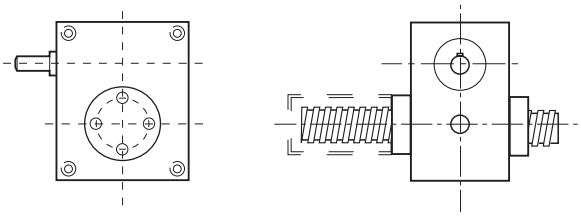
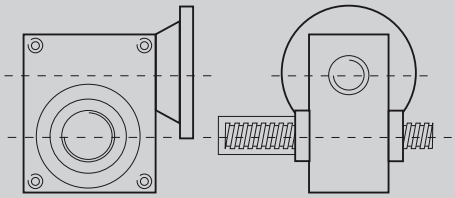


SX



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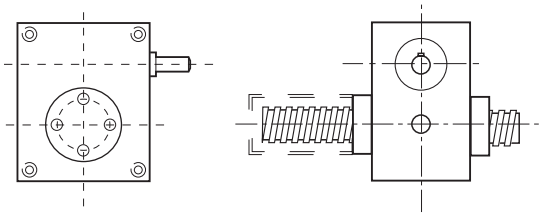
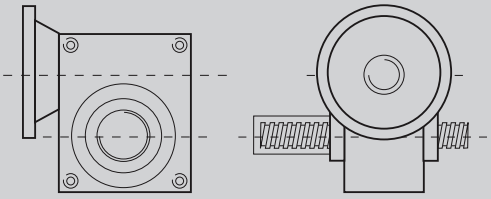


DX



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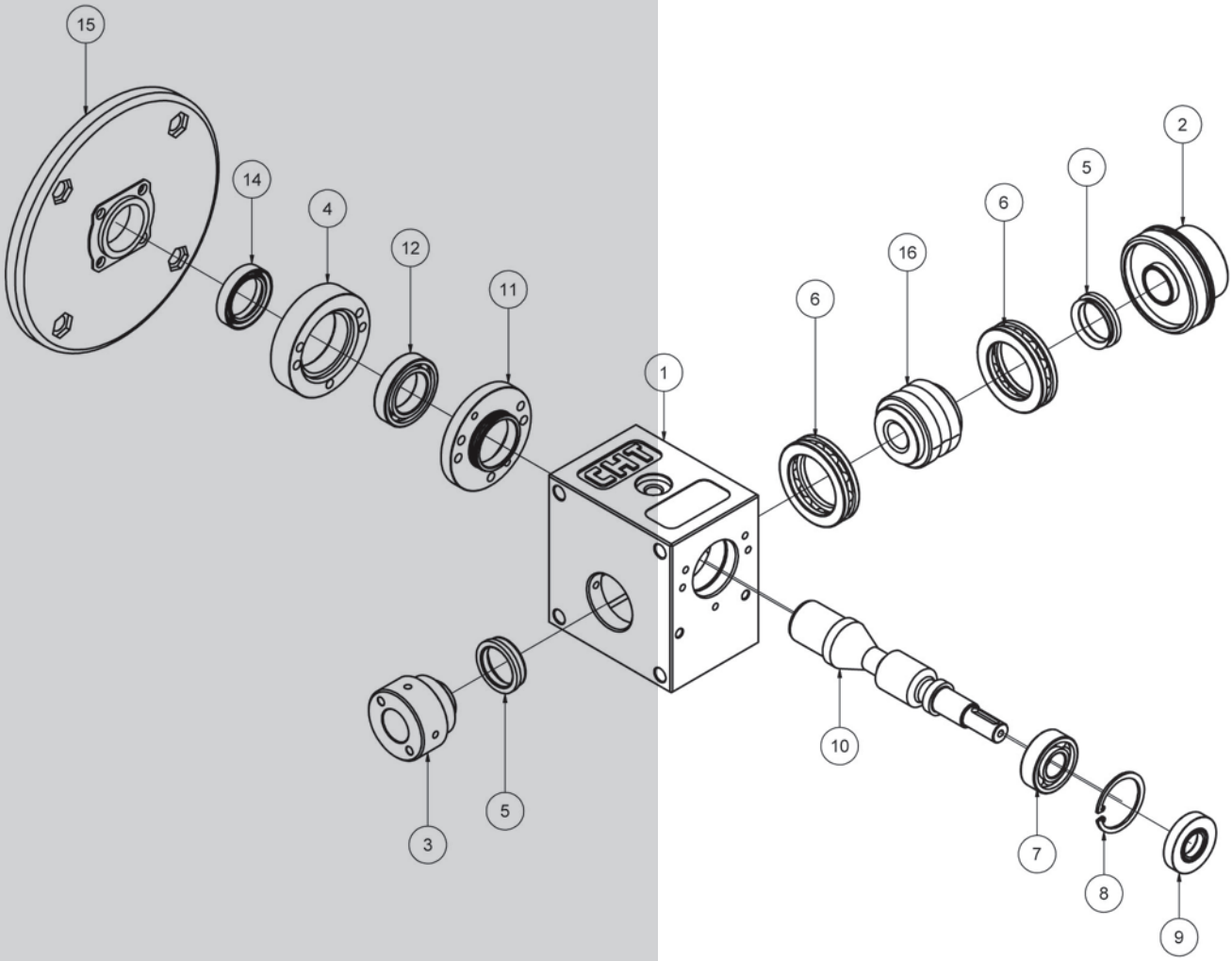
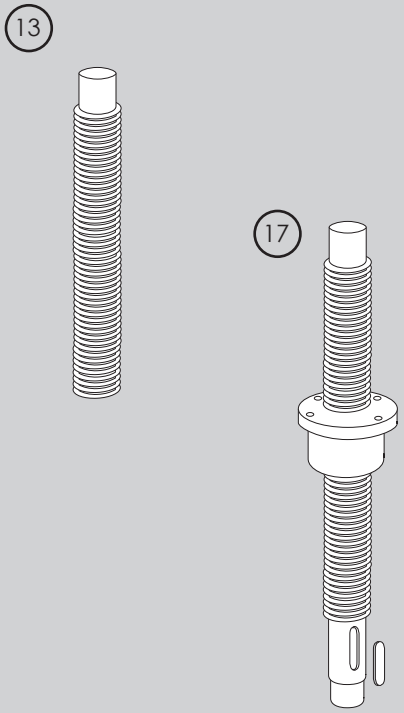
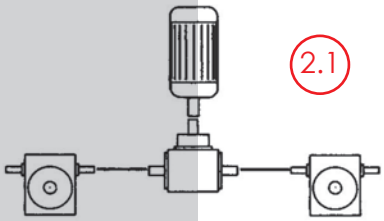




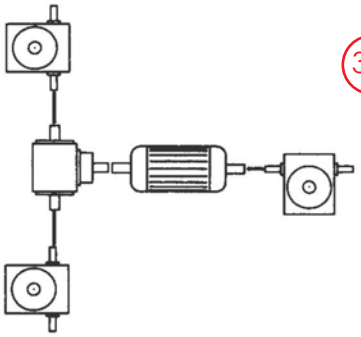
1	HOUSING
2	THREADED RING
3	LOWER RING
4	SPACER RING
5	WHEEL SEAL
6	WHEEL BEARING
7	WORM SCREW BEARING
8	SEEGER
9	SEAL
10	WORM SCREW
11	RING BEARING
12	FLANGE BEARING
13	TRANSLATING SCREW TS
14	FLANGE SEAL
15	FLANGIA MOTORIZZAZIONE
16	WORM WHEEL
17	ROTATING SCREW RS WITH NUT

2.0

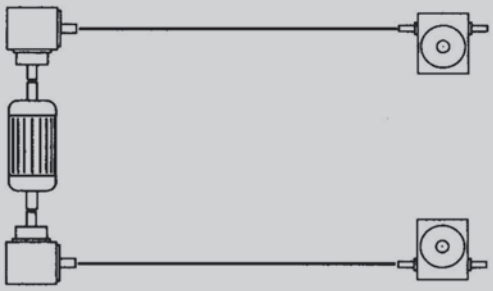
2.1



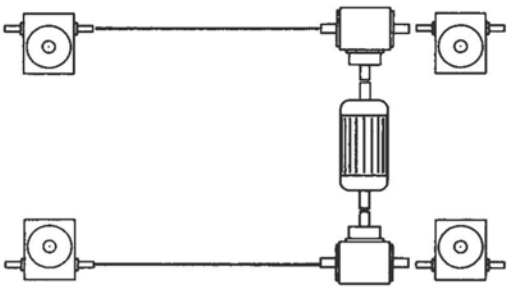
3.1



2.2



4.1



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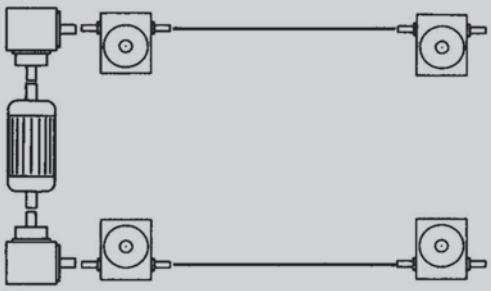

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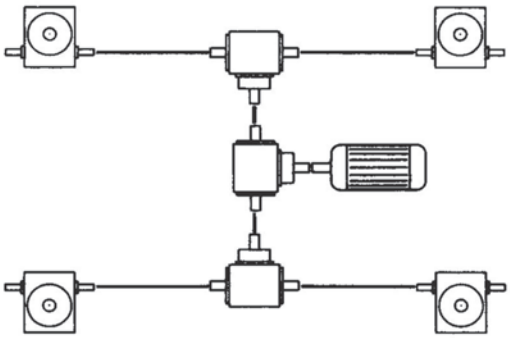
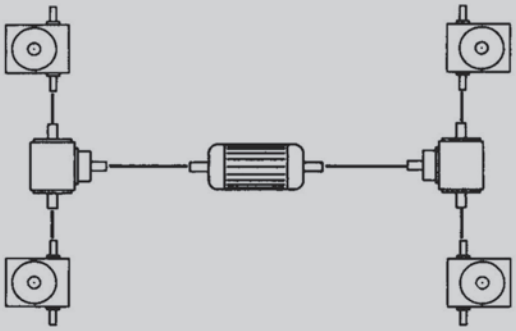


4.4



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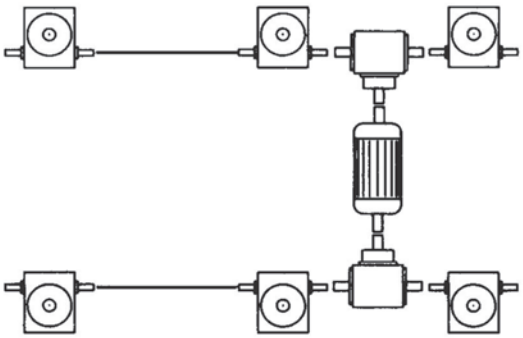

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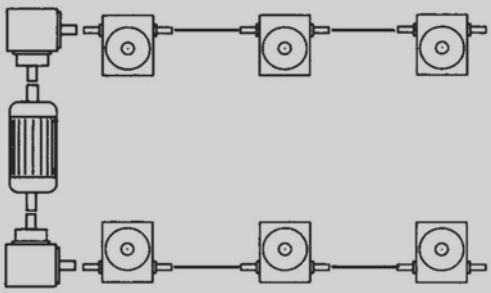
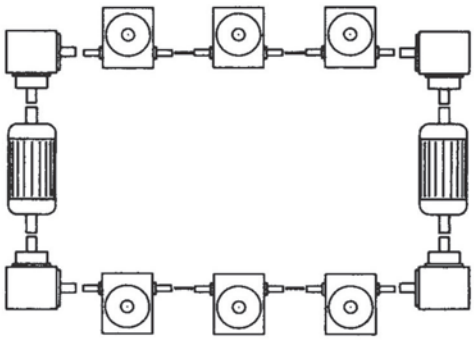


6.3



50 YEARS OF HISTORY

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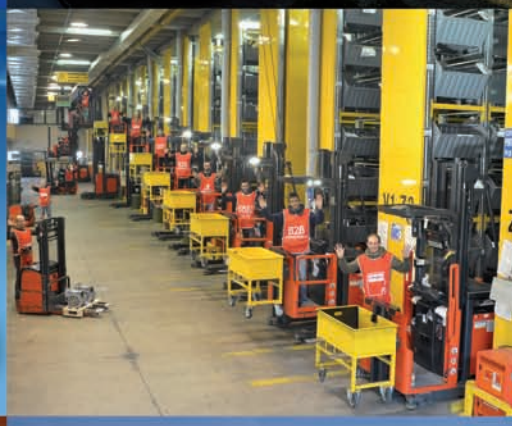

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Production of special components with high complexity and extremely high precision

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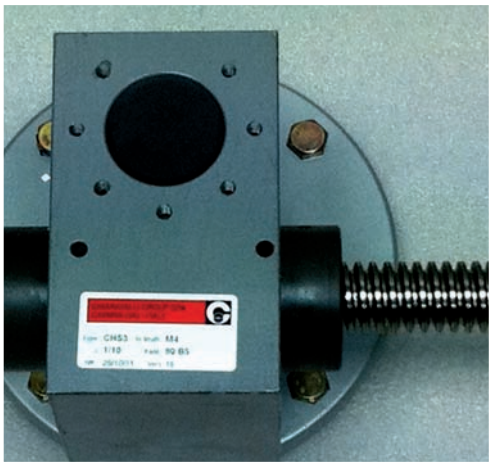
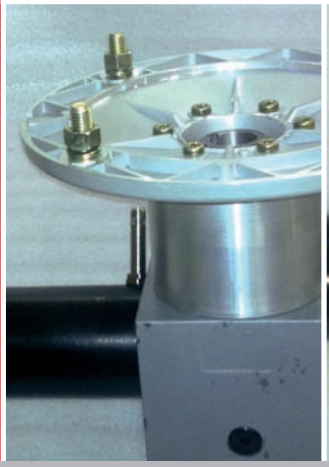
Our Logistic Center in Cantalupa is a coordinated set of informatic functions intended for storage, picking, packaging and delivery of products.

All the functions have been automatized at the highest levels available today.

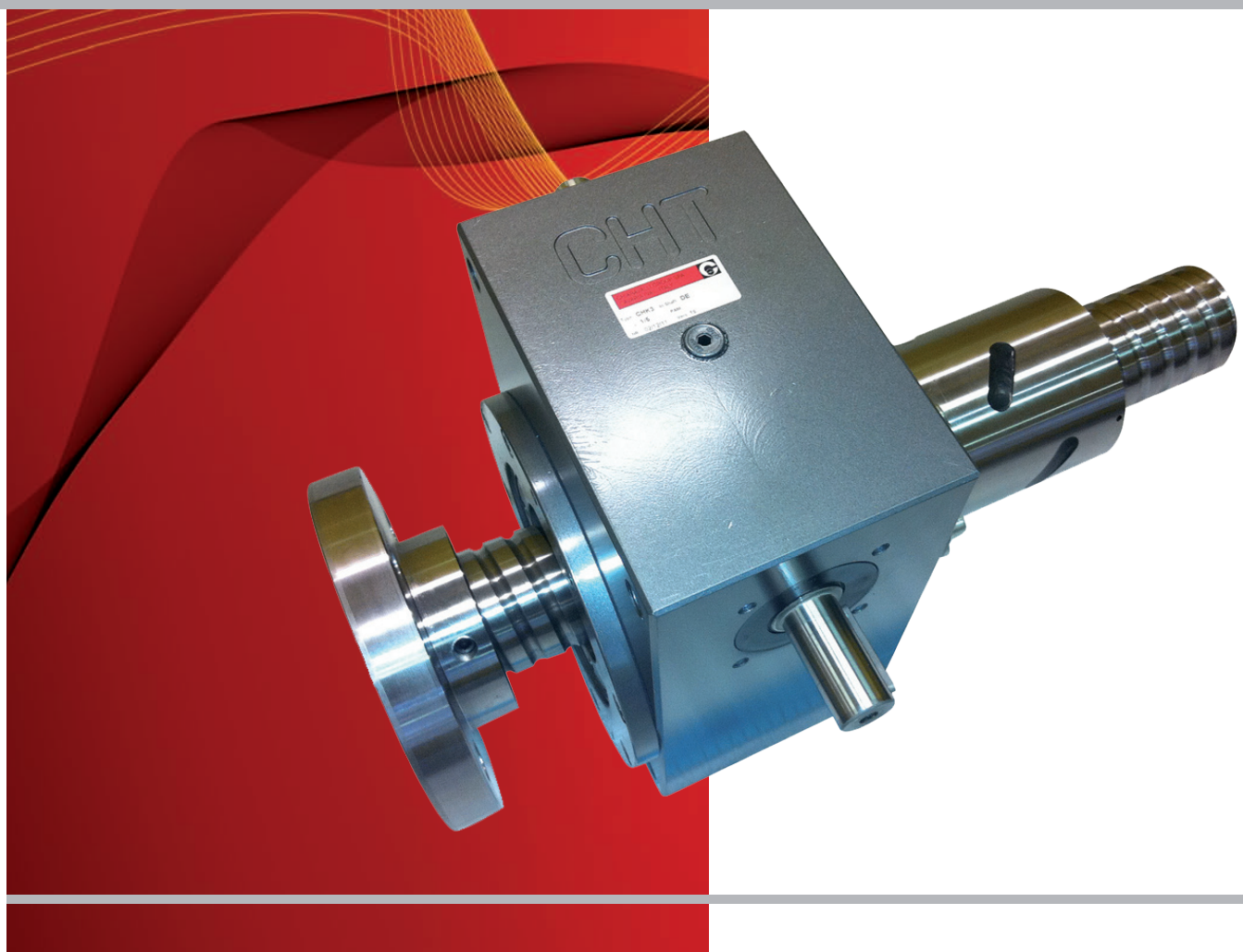
The Chiaravalli logistic group has established itself over the years becoming an example of excellence for all the European companies working in the same sector.

CHIARAVALLI GROUP SpA





SPECIAL MECHANICAL WORM SCREW JACKS



1) ORDERS - Orders for special and standard material must always refer to offers made by CHIARAVALLI GROUP SpA.
The orders are binding for the client. Once work has commenced no cancellations or order reductions will be accepted unless the client reimburses the costs of the material and the work carried out up to the moment in which the order was suspended.
The quantity despatched can vary by ± 5% compared to the quantity ordered.

2) PRICES - The prices are those in force at the date of order.
All prices are for goods delivered ex-works Premezzo, packing excluded. If there should be any increase in production and material costs over the duration of the supply, CHIARAVALLI GROUP SpA reserves the right to adapt the prices accordingly, even for orders in course.

3) TERMS OF DELIVERY - Only the terms of delivery indicated by CHIARAVALLI SpA are to be considered valid. However, they must only be considered as indicative. In the event of difficulty in the procurement of materials, strikes or in any event in all cases of force majeure, the terms of delivery will be automatically extended without CHIARAVALLI GROUP SpA having to pay any reimbursement for damages. The client is obligated to collect special material ordered when ready.

4) DELIVERIES - Deliveries are the responsibility of the purchaser and are carried out at his own risk and peril.
Any claims for shortages must be presented within 8 days of receipt of the goods. If it is agreed that the cost of transport is to be paid, even if only in part, by CHIARAVALLI GROUP SpA, the latter reserves the right to choose the most economical means of transport.

5) PACKING - Packing will be invoiced at cost.

6) RETURNS - No returns for any reason will be accepted unless previously authorised and with packing, any customs clearance and the return paid for by the purchaser. To cover warehouse and administrative expenses a debit note will be issued for approx. 15% of the value of the goods returned.

7) WARRANTY - CHIARAVALLI GROUP SpA promises to repair or substitute free of charge any parts that they recognise as being defective. The questioned goods must be returned to the factory of CHIARAVALLI GROUP SpA, free of all expenses. The warranty will be considered cancelled in the event that the parts returned as defective have been repaired or tampered with. The repair of defective parts carried out by the purchaser will only be accepted after authorisation from CHIARAVALLI GROUP SpA and after their approval of the cost estimate.
CHIARAVALLI GROUP SpA does not accept responsibility or pay any reimbursement for damages that occur during the use of their products, even if defective. Warranty is excluded for leakage of lubricant caused by normal wear of the oil seals.

8) RESPONSIBILITY - CHIARAVALLI GROUP SpA does not accept responsibility or pay any reimbursement for damages that occur during the use of their products, even if defective.
CHIARAVALLI GROUP SpA declines all responsibility in the execution of parts to a client's design under any patents.

9) PAYMENTS - Only payments carried out in the manner and terms agreed will be considered valid. Once the due date of payment has passed, CHIARAVALLI GROUP SpA will calculate the interest on delayed payment at a rate that is 3% higher than the legal one, retaining the right to demand payment.
In the event of delayed or missing payment by the purchaser, the company CHIARAVALLI GROUP SpA reserves the right to suspend deliveries of the orders in course or to demand advance payment without having to pay any reimbursement or compensation to the purchaser. Any dispute regarding materials in manufacture or already possessed by the purchaser does not free the latter from the commitment of making the payment by the agreed date and for the whole amount of the invoice without making any deductions.

10) OWNERSHIP - All of the goods despatched remain the property of CHIARAVALLI GROUP SpA until the invoice is fully paid.

11) COMPETENT COURT - Any controversy concerning business relations with CHIARAVALLI GROUP SpA will be dealt with under the jurisdiction of the Court of Busto Arsizio.

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