

HYGIENIC APPLICATIONS

W.R. JACKS
JACKS NY - FA - X
BEVEL GEARBOXES RA2000 NY - FA series
BEVEL GEARBOXES X - AG series

Introduction

DRIVE YOUR MOTION, EVERYWHERE

Marzorati has always developed, designed and produced customised products and solutions in order to satisfy the specific needs of the customer.

Marzorati plays this important role not as a simple supplier but as a real partner that supports the customer from project design to product.

For these reasons Marzorati, thanks to decades of application experience gained in the constantly evolving sectors of filling, food, pharmaceutical and beverage, has created a line of products designed for the specific needs of use and cleaning which these important market sectors require.

Marzorati and its team of specialised technicians will be able to evaluate and guide the customer in the choice of the most suitable product for the required needs, always considering the cost-benefit ratio.

W.R. Screwjacks

DRIVE YOUR MOTION, EVERYWHERE

The W.R. series was created for applications where the work environment subjects the screwjacks to frequent flows of water and to continuous, but necessary, washing with aggressive chemical solutions.

The special construction shape is designed and developed specifically to protect the screwjack and guarantee its functionality, avoiding premature damage or unpleasant downtime.

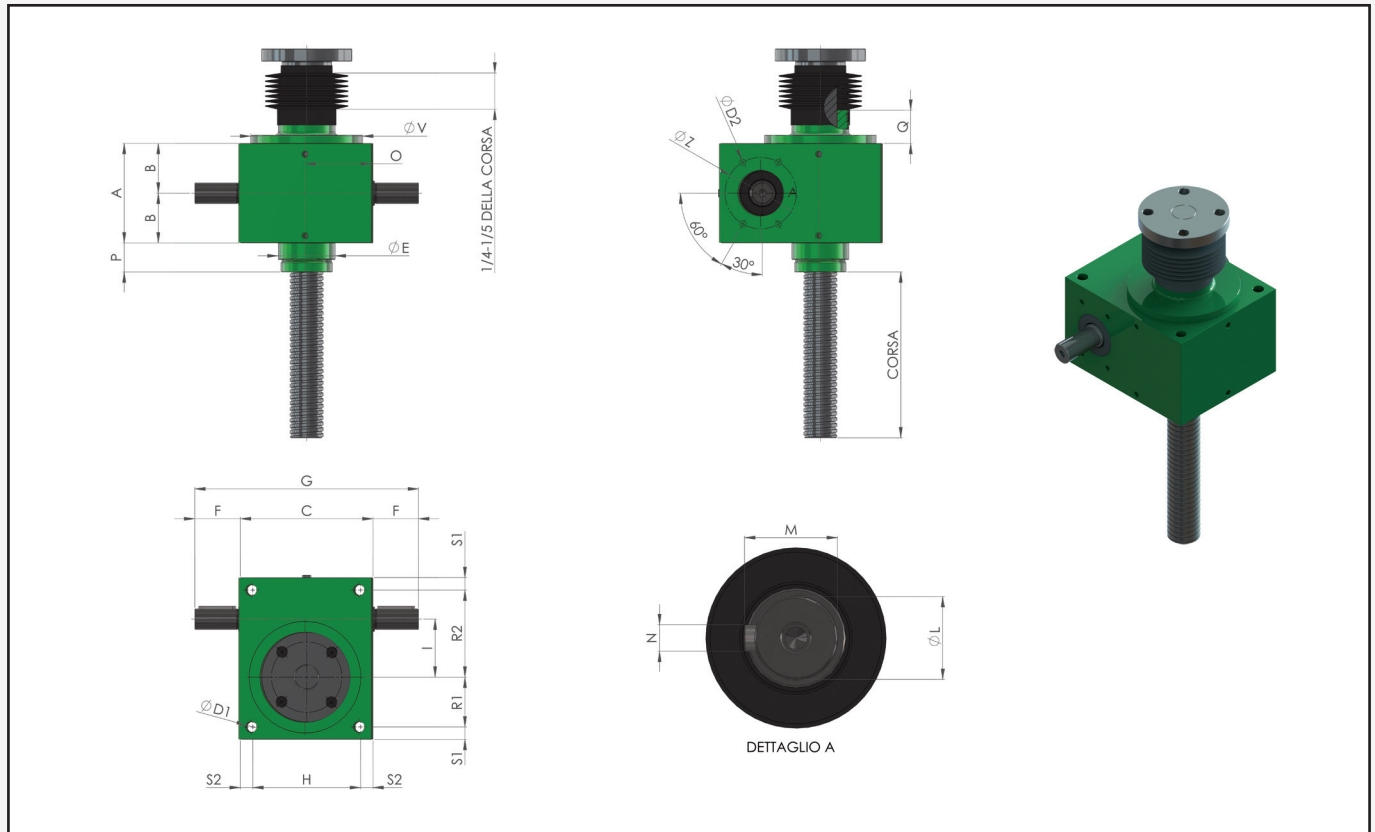
The W.R. series is supplied with elastic protection that can be made in different materials.

In this version it is possible to create a series of surface coatings such as HYPLATE or FEP according to your needs, in compliance with NSF, BGA and/or FDA regulations.

» PERFORMANCE TABLE

SIZE		MAR WR204	MAR WR306	MAR WR407
Maximum allowable load	[daN]	1000	2500	5000
Available Version		T	T	T
Reduction Ratios	Fast	1/5	1/5	1/5
	Normal	1/10	1/10	1/10
	Slow	1/30	1/30	1/30
Trapezoidal Screw	Right pitch	20X4	30X6	40X7
Theoretical Efficiency	Fast	0.29	0.29	0.26
	Normal	0.28	0.24	0.23
	Slow	0.17	0.16	0.16
Efficiency at Start-up η_{as}	Fast	0.23	0.20	0.18
	Normal	0.21	0.19	0.17
	Slow	0.16	0.15	0.13
Screw Weight per 100 mm	[kg]	0.22	0.5	0.9
Jack Weight Without Screw	[kg]	2.5	6.1	12.8
Operating Temperature	[°C]	0/80	0/80	0/80

» W.R. DIMENSIONAL TABLE



SIZE	SCREW	A	B	C	D1	D2	E	F	G	H	I	L	M
MAR WR204	20X4	70	35	100	9	M5X12	44	25	150	80	30	12 j6	13.5
MAR WR306	30X6	90	45	126	11	M6X12	60	40	206	102	50	20 j6	22.5
MAR WR407	40X7	120	60	160	13	M8X16	69	55	270	130	70	25 j6	28

SIZE	SCREW	N	O	P	Q	R1	R2	S1	S2	β	α	V	Z
MAR WR204	20X4	4	50	20	27	30	55	7.5	10	60	30	70	60
MAR WR306	30X6	6	63	25	33	48	83	12	12	45	45	97	68
MAR WR407	40X7	8	80	35	40	60	105	15	15	60	30	135	86

» W.R. SERIES ORDER CODING

Coding example	WR 306	T	V	2	1100	TP	M63B5	FA	PR	RS	PE	GT	FI
SIZES	204 - 306 - 407												
DESIGN	Translating												
RATIOS	1/5 - 1/10 - 1/30												
CONFIGURATION	1-2-3-4-5-6-7												
STROKE (mm)													
SPINDLE END	TP - TM - ST - TL - TO - TR - TF - TS												
MOTOR													
COATING	NY (NICHEL) - FA (TEFLON) - X (STAINLESS)												
RIGID PROTECTION													
ANTI-DISENGAGEMENT SAFETY BUSH													
ELASTIC PROTECTION													
ANTI-ROTATION													
LIMIT SWITCH													

JACKS NY - FA - X

DRIVE YOUR MOTION, EVERYWHERE

For all industrial sectors where the environment of use is to be considered oxidizing, or where to obtain a high level of cleanliness it is necessary to wash the components of the machinery with aggressive substances, it is possible to request the jack with a procedure called Hyplate (NY). This process creates a high phosphorus Nickel-based protective surface coating designed to protect its components.

If you want to increase the level of protection and further facilitate cleaning, you can request jacks with a coating called FA based on FEP. This coating guarantees excellent anti-adhesive and release properties (nonstick system), excellent resistance to most compounds, excellent resistance to abrasion, and a low coefficient of static friction.

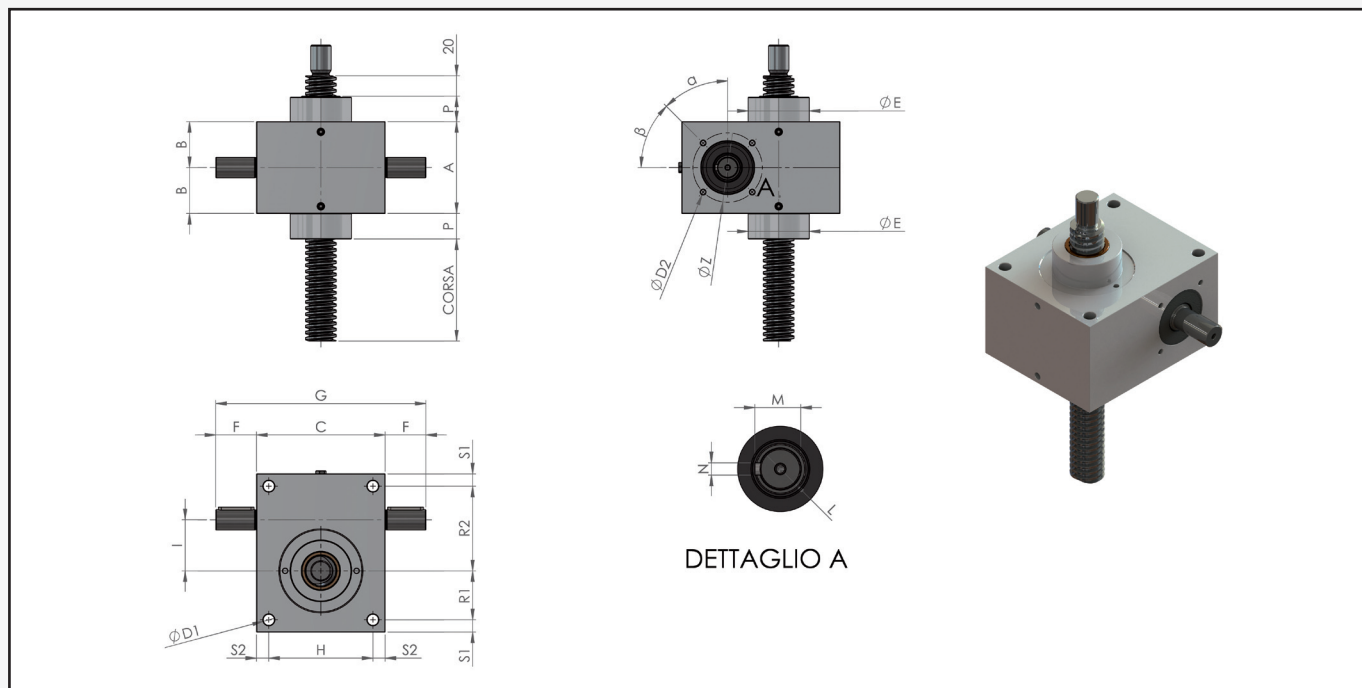
These coatings are suitable for accidental contact with food according to NSF, BGA and/or FDA regulations. Finally, for highly corrosive work environments, or for sectors where regulations require it for hygiene reasons, Marzorati has developed a series of jacks made of AISI304 and AISI316 stainless steel.

» PERFORMANCE TABLE

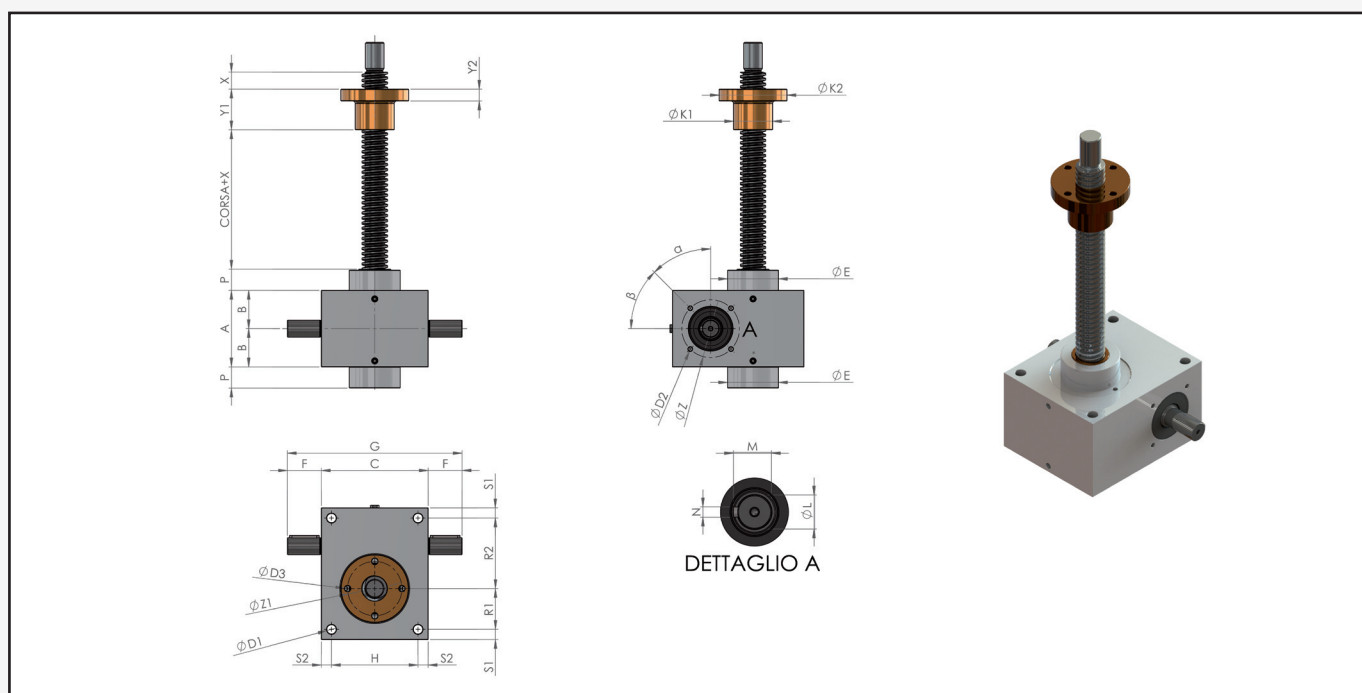
SIZE		MAR WR204	MAR WR306	MAR WR407
Maximum allowable load	[daN]	1000	2500	5000
Available Version		R - T	R - T	R - T
Reduction Ratios	Fast	1/5	1/5	1/5
	Normal	1/10	1/10	1/10
	Slow	1/30	1/30	1/30
Trapezoidal Screw	Right pitch	20X4	30X6	40X7
Theoretical Efficiency	Fast	0.29	0.29	0.26
	Normal	0.28	0.24	0.23
	Slow	0.17	0.16	0.16
Efficiency at Start-up η_{as}	Fast	0.23	0.20	0.18
	Normal	0.21	0.19	0.17
	Slow	0.16	0.15	0.13
Screw Weight per 100 mm	[kg]	0.22	0.5	0.9
Jack Weight Without Screw	[kg]	2.5	6.1	12.8
Operating Temperature	[°C]	0/80	0/80	0/80

FOR X SERIES JACKS BUILT IN STAINLESS STEEL
DECREASE THE LOAD CAPACITY BY 30%

» DIMENSIONAL TABLE NY-FA-X TRANSLATING VERSION



» DIMENSIONAL TABLE NY-FA-X ROTATING VERSION



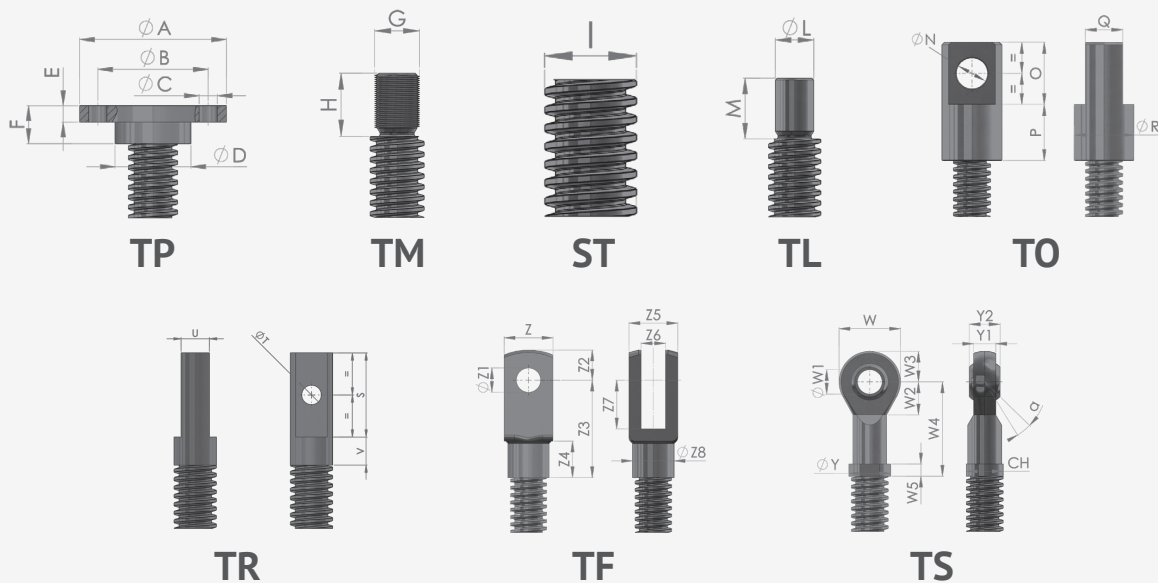
SIZE	VITE	A	B	C	D1	D2	E	F	G	H	I	K1	K2	L	M
MAR204	20X4	70	35	100	9	M5X12	44	25	150	80	30	32	60	12 j6	13.5
MAR306	30X6	90	45	126	11	M6X12	60	40	206	102	50	46	80	20 j6	22.5
MAR407	40X7	120	60	160	13	M8X16	69	55	270	130	70	60	96	25 j6	28

SIZE	VITE	N	D3	P	R1	R2	S1	S2	β	α	Y1	Y2	X	Z	Z1
MAR204	20X4	4	7	20	30	55	7.5	10	60	30	45	12	15	60	45
MAR306	30X6	6	7	25	48	83	12	12	45	45	48	14	20	68	64
MAR407	40X7	8	9	35	60	105	15	15	60	30	75	16	25	86	78

» NY - FA - X SERIES ORDER CODING

Coding example	MAR306	T	V	2	1100	TP	M63B5	FA	PR	RS	PE	GT	FI
SIZES	204 - 306 - 407												
DESIGN	Translating - Rotating												
RATIOS	1/5 - 1/10 - 1/30												
CONFIGURATION	1-2-3-4-5-6-7												
STROKE (mm)													
TERMINAL	TP - TM - ST - TL - TO - TR - TF - TS												
MOTOR													
COATING	NY (NICHEL) - FA (TEFLON) - X (STAINLESS)												
RIGID PROTECTION													
ANTI -DISENGAGEMENT SAFETY BUSH													
ELASTIC PROTECTION													
ANTI-ROTATION													
LIMIT SWITCH													

» SCREW ENDS



SIZE	A	B	C	CH	D	E	F	G	H	I	L	M	N
MAR204	79	60	n.4x11	19	39	8	21	14x2	20	20x4	15	20	20
MAR306	89	67	n.4x12	30	46	10	23	20x2.5	30	30x6	20	25	25
MAR407	109	85	n.4x13	41	60	15	30	30x3.5	30	40x7	25	30	35

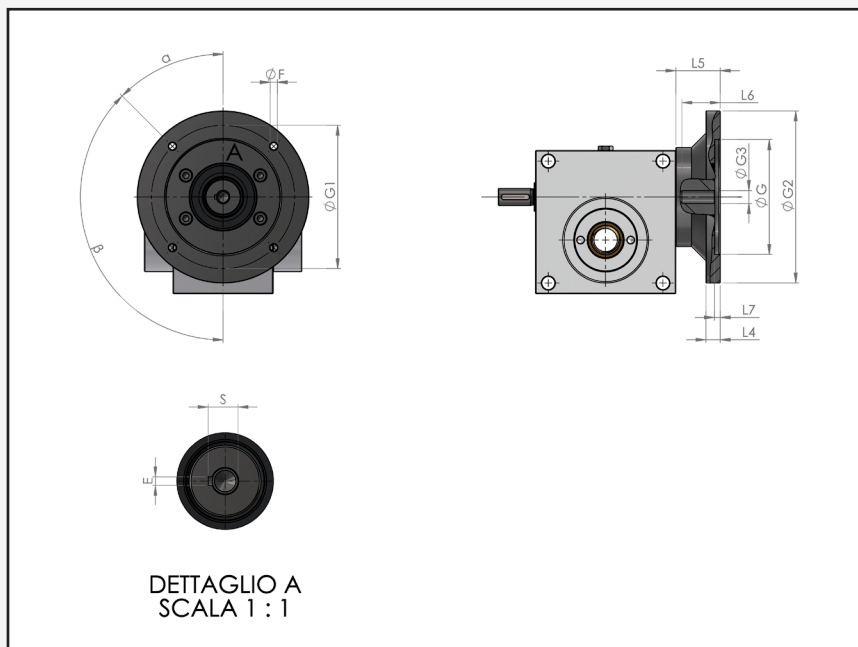
SIZE	O	P	Q	R	S	T	U	V	Z	Z1	Z2	Z3	Z4
MAR204	40	35	25	38	50	10	14	20	24	12	14	48	18
MAR306	50	45	30	48	60	14	20	20	40	20	25	80	30
MAR407	70	55	40	68	80	22	30	20	55	30	38	110	38

SIZE	Z5	Z6	Z7	Z8	Y	Y1	Y2	W	W1	W2	W3	W4	W5
MAR204	24	12	24	20	22	12	16	32	12	17	16	50	6.5
MAR306	40	20	40	34	34	18	25	50	20	27	25	77	10
MAR407	55	30	54	48	50	25	37	70	30	36	35	110	15

» OPTIONAL

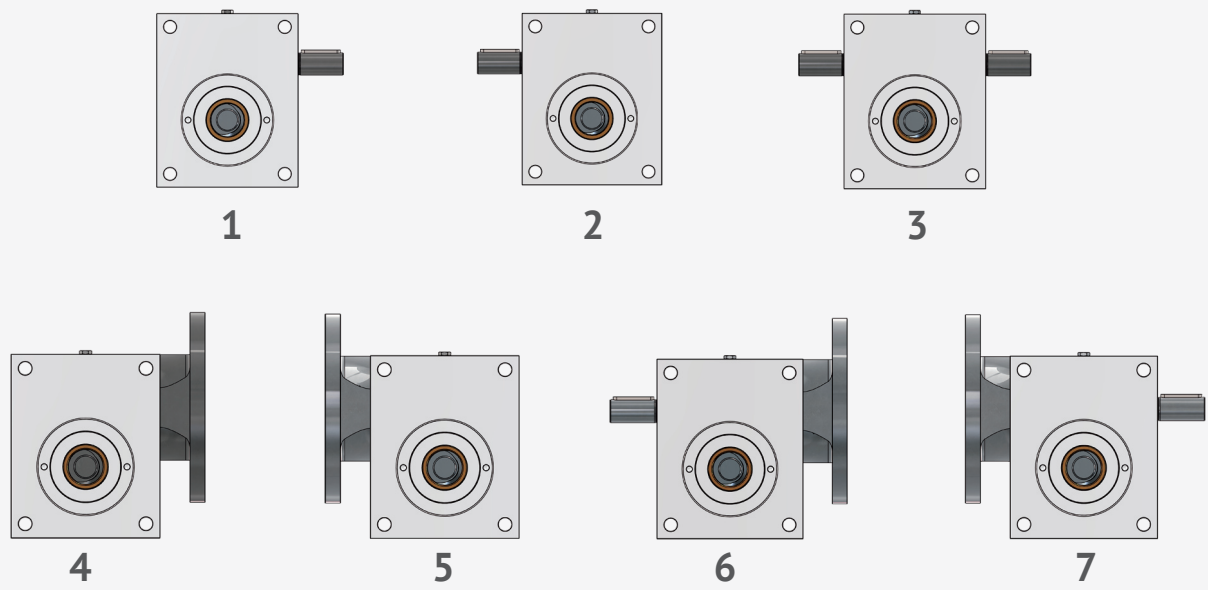
- **RIGID PROTECTION** – To protect the trapezoidal screw from environmental impurities (flour, dust or foreign bodies).
- **ANTI-DISENGAGEMENT BUSH** – Positioned at the end of the screw to prevent it from coming out in case of incorrect manoeuvres.
- **ELASTIC PROTECTION** – Same functionality as the rigid protection but made through the use of a bellows positioned in the upper part of the trapezoidal screw. The materials available for the elastic protections are PVC-KEVLAR COATED IN SILICONE-POLYURETHANE.
- **INDUCTIVE LIMIT SWITCHES** – Useful for detecting the stroke of the jack, they are mounted on the rigid protection reading the minimum and maximum position.
- **GT ANTI-ROTATION GUIDE** – Inside the rigid protection it is possible to mount a guide bush that allows to oppose the rotation of the screw.
- **For any further customisations, please contact our technical department.**

» MOTOR MOUNTING FLANGE

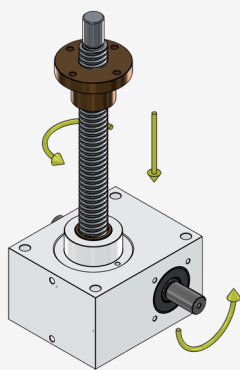


SIZE	FLANGE	G	G1	G2	G3	E	F	L4	L5	L6	L7	S	ALFA	BETA
MAR204	56B5	80	100	120	9	3	M6	10	30	20	4	10.4	45°	90°
	63B5	95	115	140	11	4	M8	10	30	23	4	12.8	45°	90°
	63B14	60	75	90	11	4	6	12	30	23	4	12.8	45°	90°
	71B5	110	130	160	14	5	M8	10	30	30	4	16.3	45°	90°
	71B14	70	85	105	14	5	7	14	30	30	4	16.3	45°	90°
MAR306	63B5	95	115	140	11	4	M8	12	38	23	4	12.8	45°	90°
	71B5	110	130	160	14	5	M8	12	38	30	4	16.3	45°	90°
	80B5	130	165	200	19	6	M10	13	38	40	4	21.8	45°	90°
	80B14	80	100	120	19	6	7	13	38	40	4	21.8	45°	90°
MAR407	71B5	110	130	160	14	5	M8	15	40	30	5	16.3	45°	90°
	80B5	130	165	200	19	6	M10	15	40	40	5	21.8	45°	90°
	80B14	80	100	120	19	6	7	15	40	40	5	21.8	0°	90°
	90B5	130	165	200	24	8	M10	15	40	50	5	27.3	45°	90°
	90B14	95	115	140	24	8	9	15	40	50	5	27.3	45°	90°
100-112B5	100-112B5	180	215	250	28	8	M12	15	40	60	5	31.3	45°	90°
	100-112B14	110	130	160	28	8	9	15	40	60	5	31.3	45°	90°

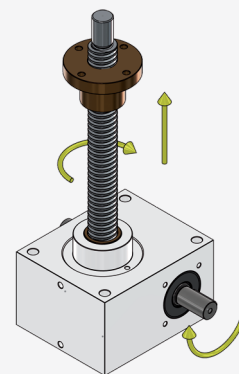
» ARRANGEMENTS



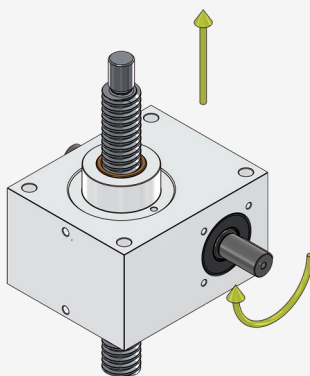
» DIRECTIONS OF ROTATION



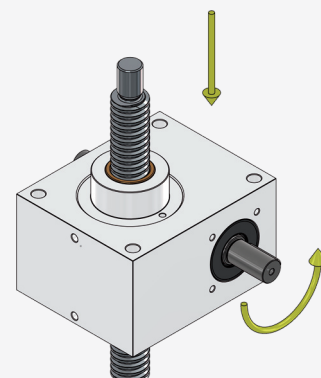
TRANSLATING JACK - ROTATION 1



TRANSLATING JACK - ROTATION 2



ROTATING JACK - ROTATION 1



ROTATING JACK - ROTATION 2

Bevel gearboxes RA2000 NY - FA series

DRIVE YOUR MOTION, EVERYWHERE

For the same reasons related to the work environment and cleaning explained in the previous paragraph, Marzorati has created a series of dedicated bevel gearboxes.

It is possible to apply to these products, coating with a process called Hyplate (NY) based on Nickel, or the coating called FA based on FEP, obtaining the same advantages of nonstick and corrosion resistance obtained in jacks.

These coatings are suitable for accidental contact with food according to NSF, BGA and/or FDA regulations.

» PERFORMANCE TABLE

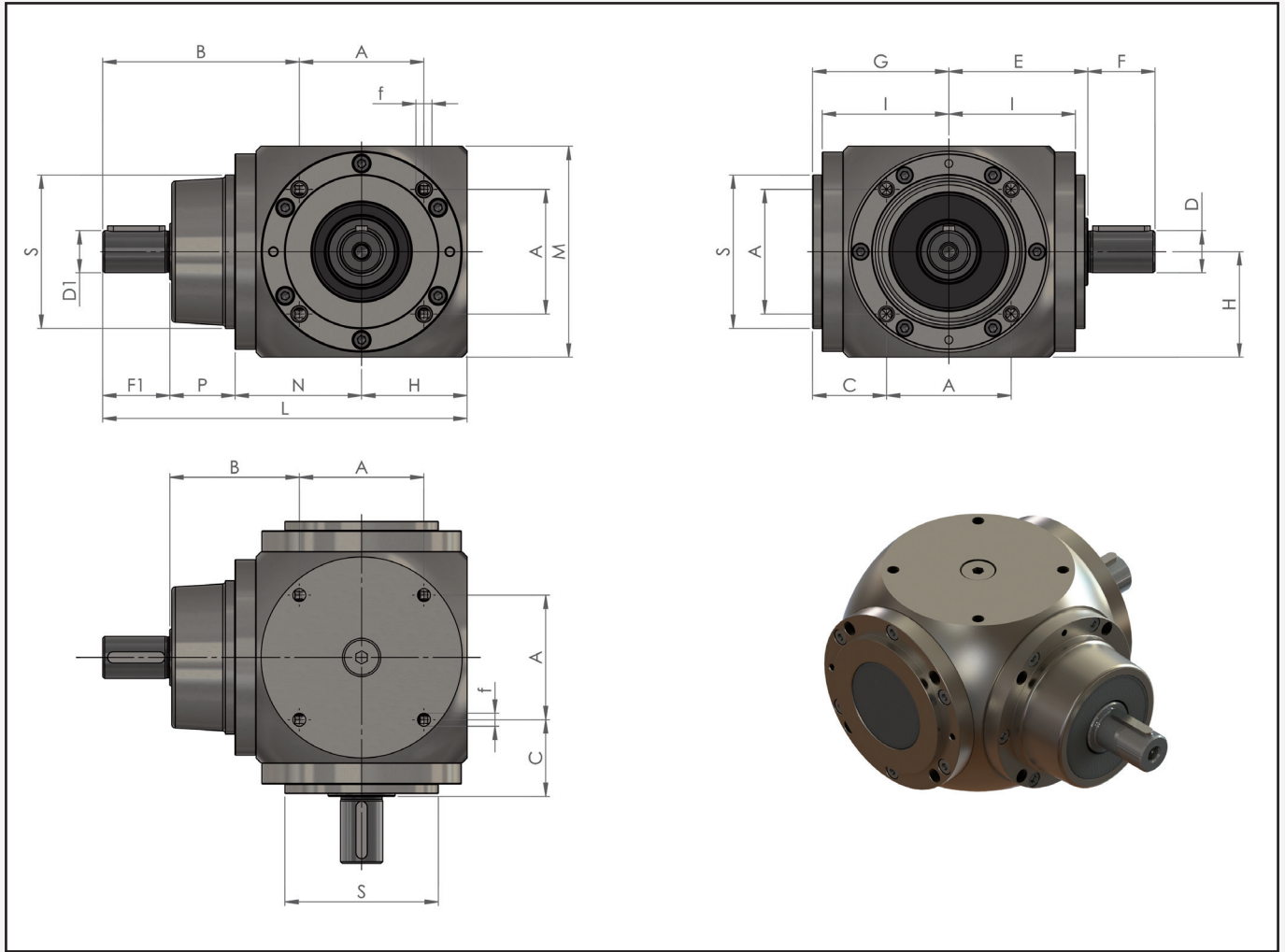
SIZE		OUTPUT TORQUE $MT_{2,MAX}$ Nm				INPUT SPEED $N1_{MAX}$ rpm				EFFICIENCY			
		RA2005	RA2010	RA2020	RA2040	RA2005	RA2010	RA2020	RA2040	RA2005	RA2010	RA2020	RA2040
REDUCTION RATIOS	0.5	11.5	20	49	100	1500	1500	1500	1500	0.98	0.98	0.98	0.98
	0.66	14.5	41.5	73	131	1500	1500	1500	1500	0.98	0.99	0.99	0.99
	1	30	74	138	228	3000	3000	3000	3000	0.99	0.99	0.99	0.99
	1.5	46	84	153	286	3000	3000	3000	3000	0.98	0.99	0.99	0.99
	2	28	77	133	277	3000	3000	3000	3000	0.98	0.99	0.99	0.99
	3	27	77	132	277	3000	3000	3000	3000	0.97	0.98	0.98	0.98
	4		61	108	220		3000	3000	3000		0.97	0.97	0.97
	5		61	108	220		3000	3000	3000		0.96	0.96	0.96

**ATTENTION: the input speed limit is to be considered as an absolute value.
It must therefore be verified according to the effective torque to be transmitted and the required duration envisaged for the angular transmission.**

» RA SERIES ORDER CODING

Coding example	RA 2005	C	1.5	ABCD	6	PAM63B5	6485	FA
SIZES 2005 - 2010 - 2020 - 2040								
RANGE RA...N - RA...D RA...P - RA...C - RA...X - RA...V - RA...K - RA...H								
REDUCTION RATIOS 0.5 - 0.67 - 1 - 1.5 - 2 - 3 - 4 - 5								
SHAFT POSITION Projecting shafts: X - Y - Z - W Oversized projecting shafts: E - L Cylindrical hollow shafts: A - B - C - D Splined hollow shafts: M - R Shafts with motor flange: A								
INTERNAL ARRANGEMENT: 01 - 02 - 03 - 04 - 05 - 06								
DESCRIPTION FOR TRANSMISSIONS WITH MOTOR CONNECTION PAM EXECUTION								
SPECIAL EXECUTION WITH POSSIBLE DRAWING NUMBER								
COATING NY (NICHEL) - FA (TEFLON) - X (INOX)								

» RA2000 NY - FA DIMENSIONAL TABLE

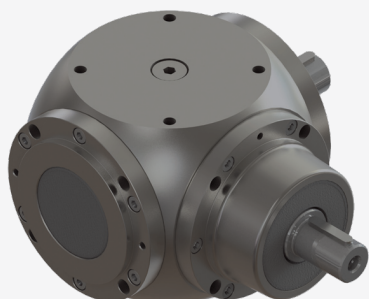


SIZE	A	B	C	D	E	F	f	G	H	I	M	N	P	S
RA 2005	48	49	28.5	14	52.5	30	M6	51.5	40	48	80	48	25	58
RA 2010	65	67.5	40	22	72.5	35	M8	71	55	66	110	66	34	80
RA 2020	82	87	51.5	32	92.5	45	M10	91	70	85	140	85	43	102
RA 2040	100	105	62	42	112	60	M12	110	85	103	170	103	52	124

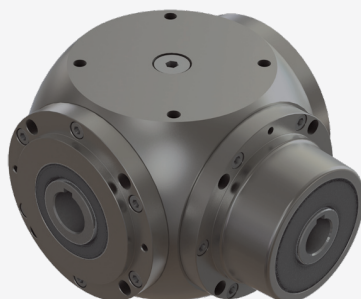
SIZE	Ratio i: 1-1; 5-2			Ratio -i: 3			Ratio -i: 4			Ratio -i: 5		
	D1	F1	L	D1	F1	L	D1	F1	L	D1	F1	L
RA 2005	14	30	143	12	25	138	-	-	-	-	-	-
RA 2010	22	35	190	22	35	190	16	30	185	12	22	177
RA 2020	32	45	243	32	45	243	20	32	230	16	30	228
RA 2040	42	60	300	36	55	295	26	45	285	22	40	280

» **RA2000 RANGE AVAILABLE**

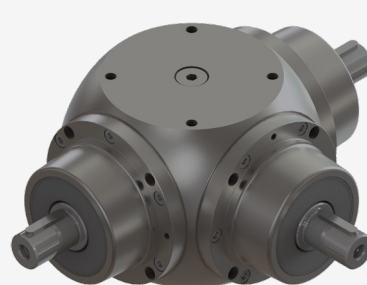
RANGE N



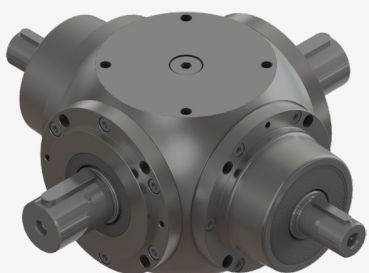
RANGE C



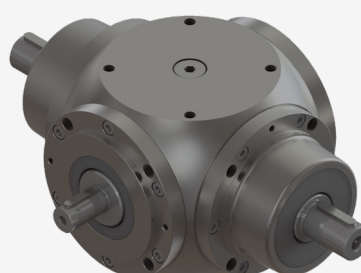
RANGE D



RANGE P



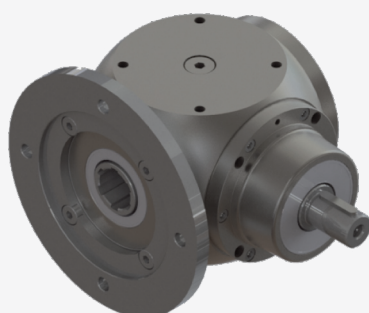
RANGE V



RANGE X



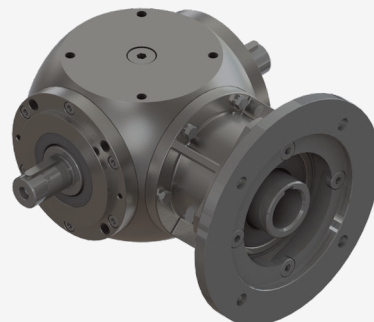
RANGE FU



RANGE FE



RANGE PAM



Bevel gearboxes X - AG series

DRIVE YOUR MOTION, EVERYWHERE

To prevent the risk of corrosion where the work environment is more aggressive, to comply with the hygiene-sanitary regulations in the market sectors where it is required, Marzorati has developed a dedicated series of bevel gearboxes entirely built in stainless steel called X-AG.

The alloys available AISI 304 and AISI 316 satisfy most of the market sectors and guarantee resistance to almost all the chemical agents present.

» PERFORMANCE TABLE

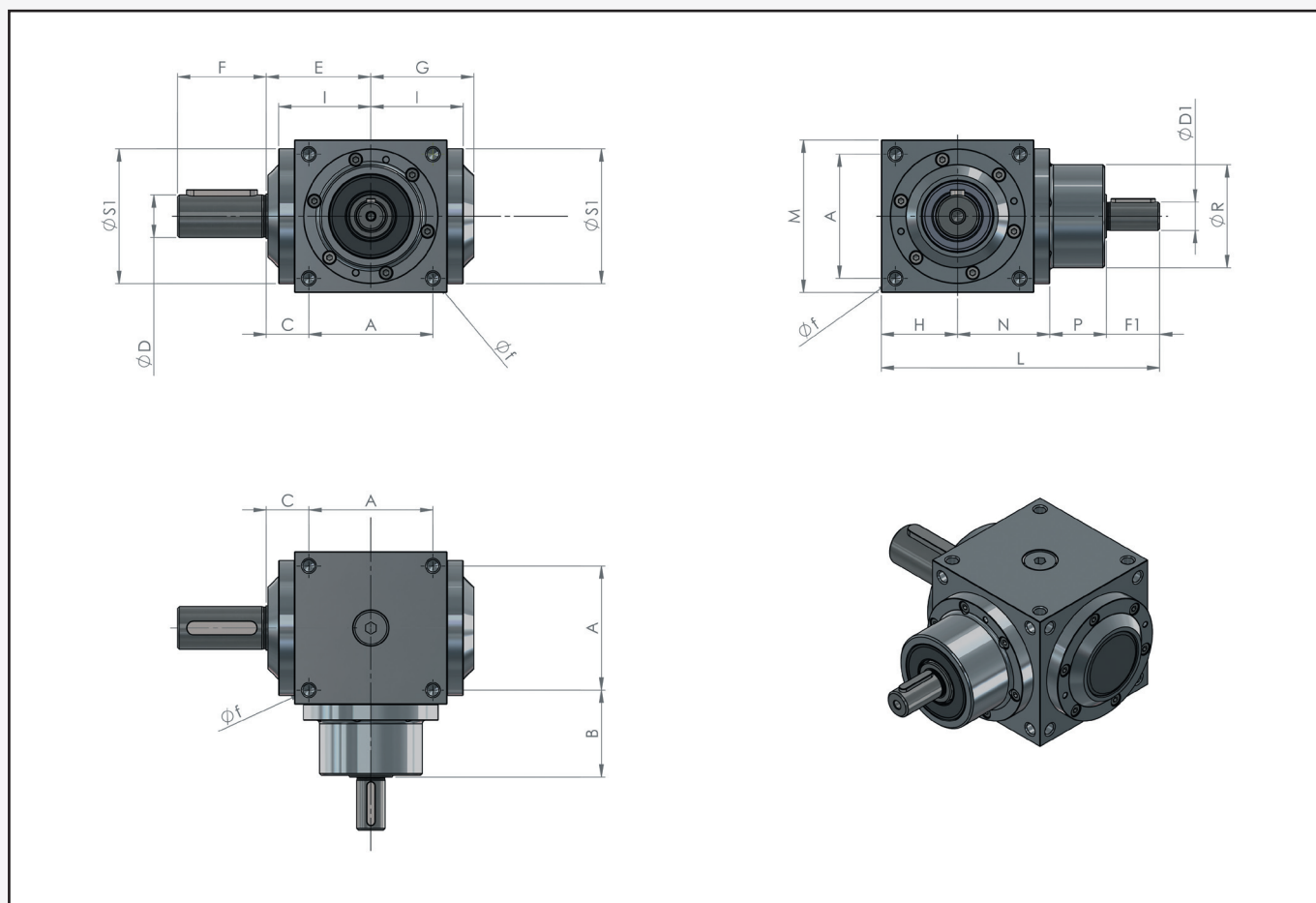
SIZE	OUTPUT TORQUE MT ₂ ^{MAX} Nm					INPUT SPEED N ₁ ^{MAX} rpm					EFFICIENCY					
	X-AG50	X-AG80	X-AG110	X-AG130	X-AG160	X-AG50	X-AG80	X-AG110	X-AG130	X-AG160	X-AG50	X-AG80	X-AG110	X-AG130	X-AG160	
REDUCTION RATIOS	0.5		11.5	20	49	100		1500	1500	1500	1500		0.98	0.98	0.98	0.98
	0.66		14.5	41.5	73	131		1500	1500	1500	1500		0.98	0.99	0.99	0.99
	1	9	30	74	138	228	3000	3000	3000	3000	3000	0.99	0.99	0.99	0.99	0.99
	1.5	9	46	84	153	286	3000	3000	3000	3000	3000	0.99	0.98	0.99	0.99	0.99
	2	8	28	77	133	277	3000	3000	3000	3000	3000	0.98	0.98	0.99	0.99	0.99
	3		27	77	132	277		3000	3000	3000	3000		0.97	0.98	0.98	0.98
	4			61	108	220			3000	3000	3000			0.97	0.97	0.97
	5			61	108	220			3000	3000	3000			0.96	0.96	0.96

ATTENZIONE: il limite di velocità in entrata è da considerarsi come un valore assoluto. Deve essere quindi verificato in funzione dell'effettiva coppia da trasmettere e dalla durata richiesta prevista per il rinvio angolare.

» RA SERIES ORDER CODING

Coding example	X-AG50	C	1.5	ABCD	6	PAM63B5	6485
SIZES	50 - 80 - 110 - 130 - 160						
RANGE	XAG...S - XAG...D - XAG...P - XAG...C XAG...X - XAG...Z - XAG...R - XAG...B						
REDUCTION RATIOS	0.5 - 0.67 - 1 - 1.5 - 2 - 3 - 4 - 5						
SHAFT POSITION	Projecting shafts: X - Y - Z - W Oversized projecting shafts: E - L Cylindrical hollow shafts: A - B - C - D Splined hollow shafts: M - R Shafts with motor flange: A						
INTERNAL ARRANGEMENT:	01 - 02 - 03 - 04 - 05 - 06						
DESCRIPTION FOR TRANSMISSIONS WITH MOTOR CONNECTION PAM EXECUTION							
SPECIAL EXECUTION WITH POSSIBLE DRAWING NUMBER							

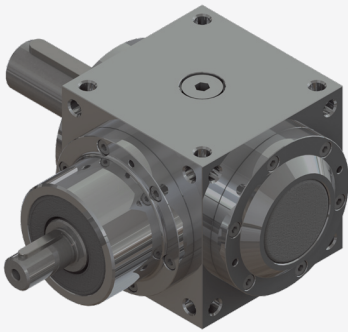
» X - AG DIMENSIONAL TABLE



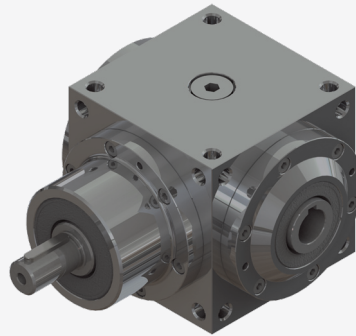
SIZE	A	B	C	D	E	F	f	G	H
X-AG50	44	50	15	18	37	35	M4	36	27
X-AG80	70	49	25	24	60	50	M8	58	43
X-AG110	90	65	27	26	72	55	M10	71	55
X-AG130	114	75	30	32	87	65	M10	85.5	67
X-AG160	144	80	34	45	106	90	M12	104	83

SIZE	I	L	M	N	P	S1	D1	F1
X-AG50	35	122	54	35	37	53	11	23
X-AG80	52	157	86	52	32	76	16	30
X-AG110	66	205	110	66	44	104	20	40
X-AG130	82	249	134	84	48	130	24	50
X-AG160	100	300	166	69	51	158	32	65

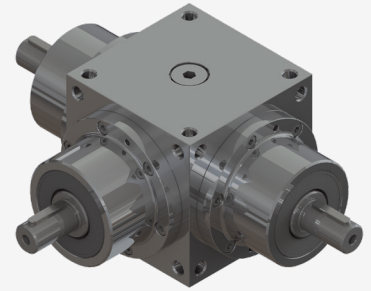
» X-AG RANGE AVAILABLE



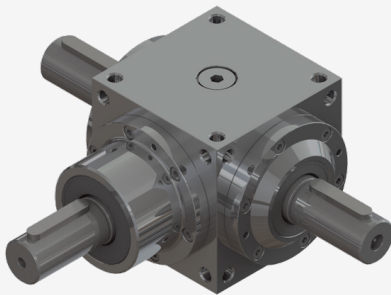
RANGE S



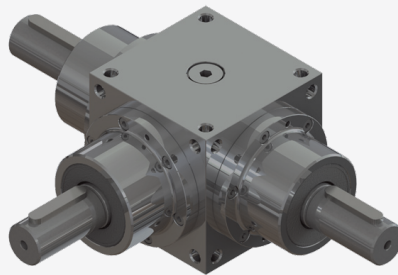
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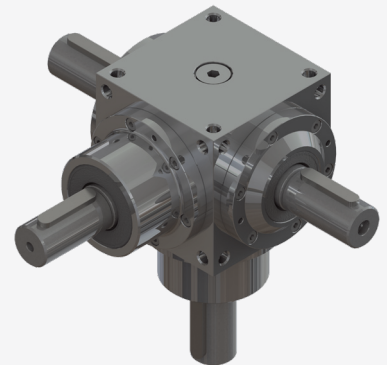
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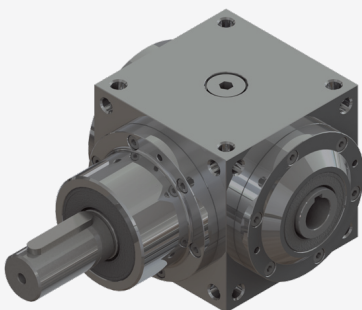
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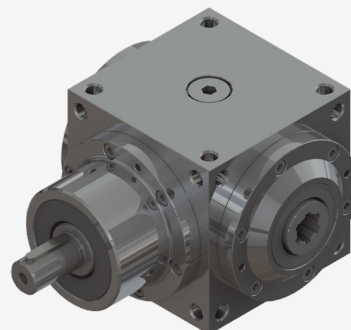
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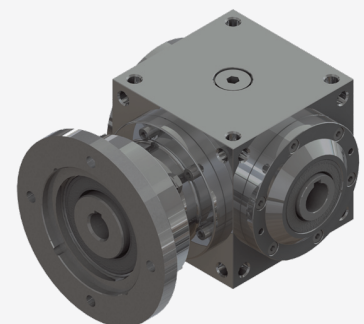
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RANGE R

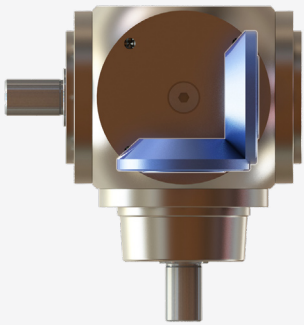


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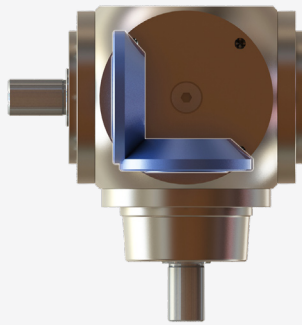


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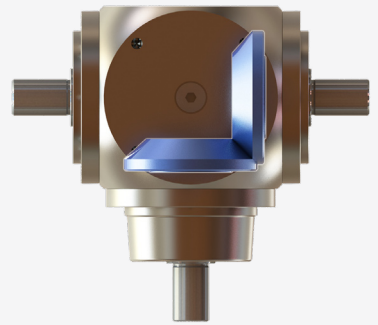
» ARRANGEMENTS



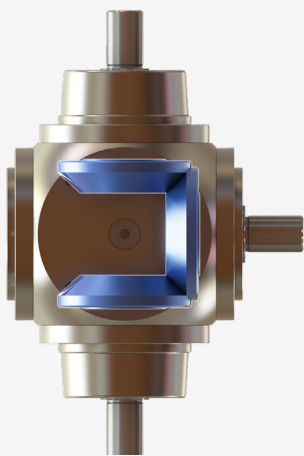
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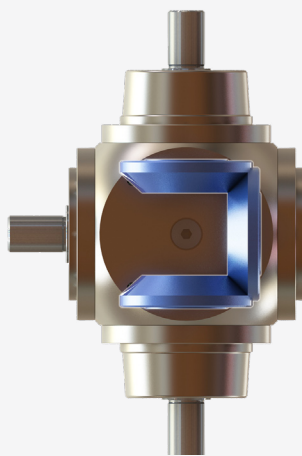
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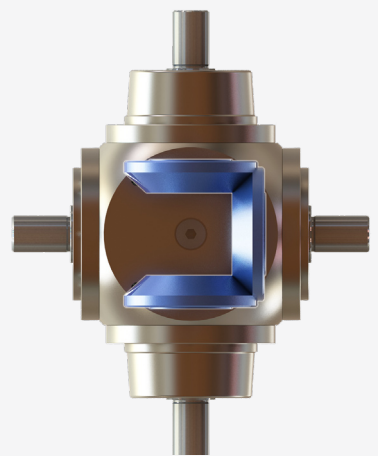
ARRANGEMENT 3



ARRANGEMENT 4



ARRANGEMENT 5



ARRANGEMENT 6

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