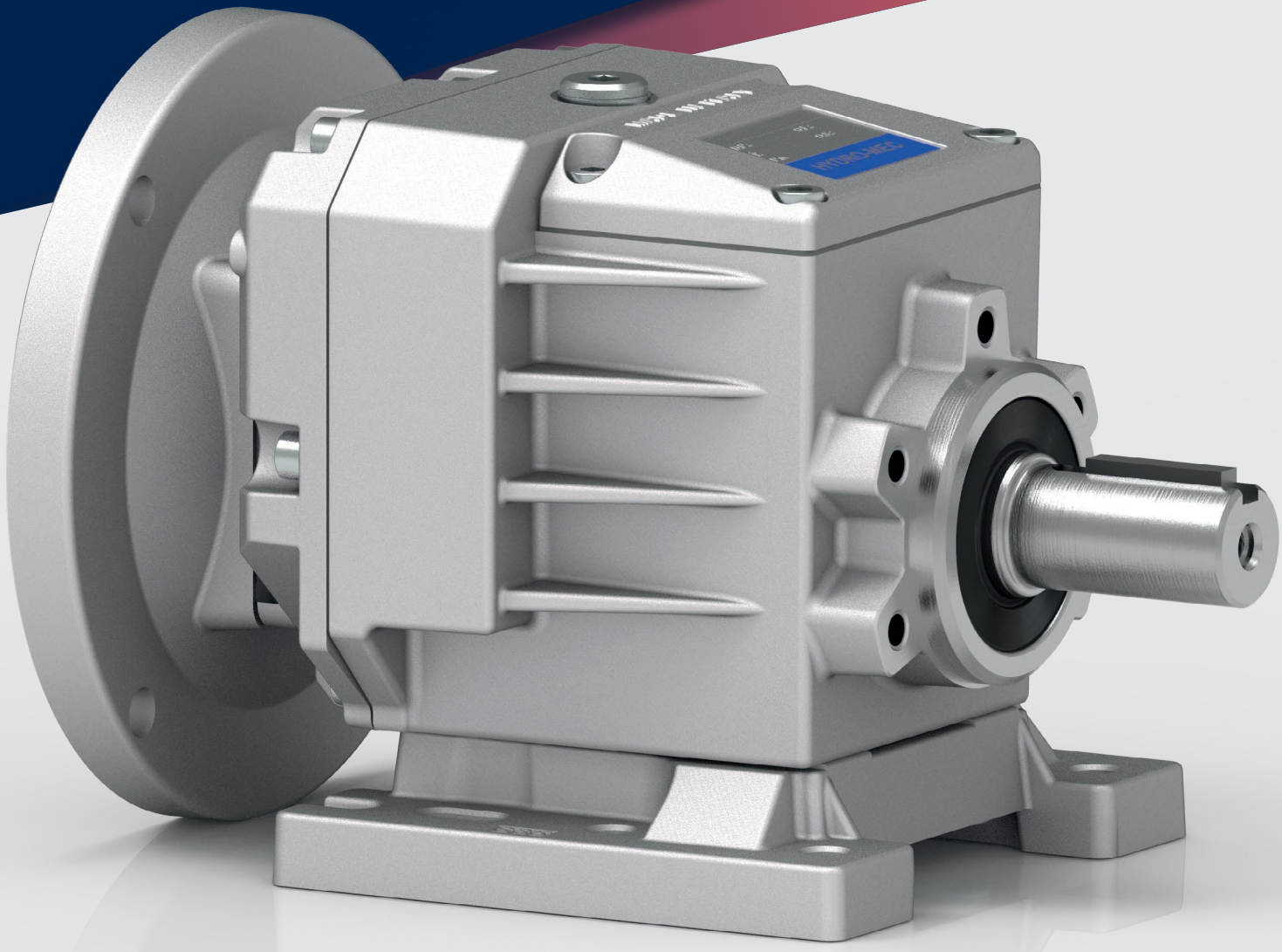
ALUMINUM
IN LINE GEARBOXES

COAXIAL - GEARS

NEMA CATALOGUE EDITION 2025

C-FACE NEMA



HYDRO · MEC

HIGH EFFICENCY GEARBOXES

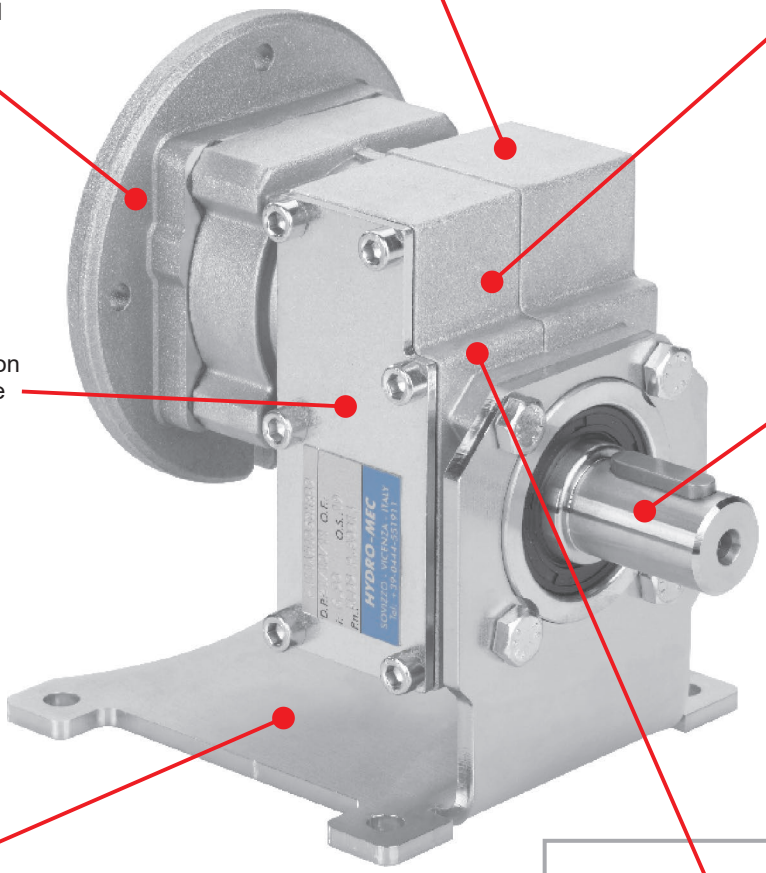
Aluminum one step gearboxes

A modular and compact product

Alloy housing
Is vacuum impregnated (MIL-STD 276) for protection and sealing. No secondary finish required but readily accepts paint

Flange
Fully modular to IEC and Compact integrated motor.
NEMA C flange

Gears
Hardened and ground gears.

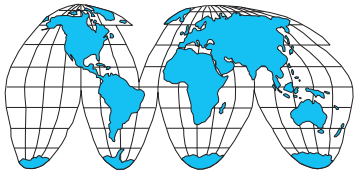


Removable inspection cover
Allows periodic inspection of gearing during routine maintenance

Output shaft
With well proportioned bearings

Feet
Removable feet.

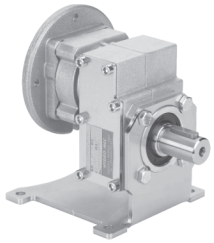
Single-piece aluminum alloy housing
Combines light weight with high tensile strength. Precision machined for alignment of bearings and gearing



World wide sales network.

Lubricated for life with synthetic oil with operative range from -15° to +130°C

Specific type datasheet on page...



Types / Tipi / Tipos

On page / A pagina / En la página

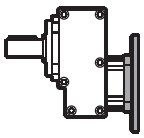
4-5	4-7	4-9	4-11
211A 177lb in	**311A** 266lb in	**411A** 336lb in	**511A** 970lb in

CODIFICA / HOW TO ORDER / CODIFICACIÓN

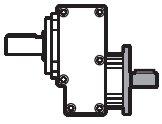
Type - Tipo - Tipo	**Size** - Grandezza - Tomaño	**Mounting** - Montaggio Tipo de montaje
P	**311A**	**-F**

Aluminum one step gear
Riduttori in alluminio a uno stadio

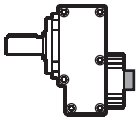
With IEC motor
M



With motor flange
P



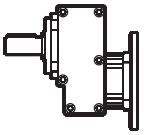
With male input shaft
R



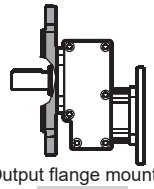
Modular Base
B

1 Stages
Riduzioni
Etapas

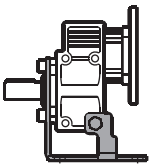
211A
311A
411A
511A



Without flange / feet
-N

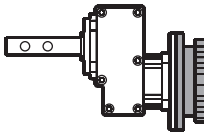


Output flange mounted
-F



Mounted feet
H1

Special output shaft
Albero uscita speciale



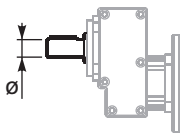
Only on request for Q.ty
A richiesta per quantità

4

Output shaft
Albero uscita
Eje en salida

X

Output shaft diameter
Diametro albero uscita



➡ **STANDARD**

211A

X ➡ ø0.625

311A

X ➡ ø0.625
O ⇨ ø0.750
W ⇨ ø0.875

411A

X ⇨ ø0.625
O ➡ ø0.750
W ⇨ ø0.875

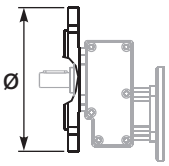
511A

Y ➡ ø1.125

Output flange
Flangia uscita
Brida en salida

U

Output flange diameter
Diametro flangia uscita



N Senza flangia
Without flange

211A

I ⇨ ø4.13

Flangia integrata
Integrated flange

311A

U ➡ ø6.50
2 ⇨ ø5.51
3 ⇨ ø6.30
4 ⇨ ø7.87

411A

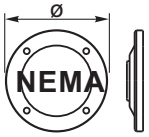
U ➡ ø6.50
2 ⇨ ø5.51
3 ⇨ ø6.30
4 ⇨ ø7.87

511A

U ➡ ø6.50
2 ⇨ ø5.51
3 ⇨ ø6.30
4 ⇨ ø7.87
5 ⇨ ø9.84

Motor size - Grandezza motore
Tamaño motor

-W



With Flange for type P

-W ⇨ 56C
-X ⇨ 143/5TC
-Y ⇨ 182/4TC

➡ **STANDARD**

Without flange
Senza flangia

211A
311A

-K ➡ ø0.625

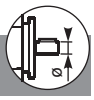
411A

-K ⇨ ø0.625
-N ➡ ø0.875

511A

-K ⇨ ø0.625
-N ⇨ ø0.875
-S ➡ ø1.125

Type R
Tipo R



211A
311A

-K ➡ ø0.625

411A

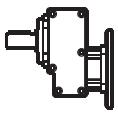
-J ➡ ø0.750

511A

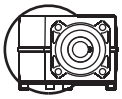
-J ⇨ ø0.750
-N ➡ ø0.875

Mounting position
Posizione montaggio
Position de montaje

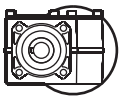
B3



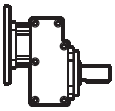
B3
STANDARD



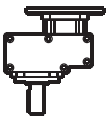
B6



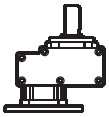
B7



B8



V5



V6

Specify only for vertical positions

Specificare solo per posizione verticale

Input bore
Foro entrata
Eingangshohlwelle
Trou d'entree
Eje hueco de entrada

ST

ST

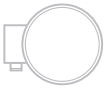
Nothing indication:
standard bore

Nessuna indicazione:
foro standard

Terminal box position
Posizione morsettiera
Posición caja de bornes

With Type M specify terminal box position

Con tipo M specificare posizione morsettiera



A

B
STANDARD

C

D

FORMULE UTILI / USEFUL FORMULAS / FÓRMULAS ÚTILES

POTENZA RICHIESTA / REQUIRED POWER / POTENCIA NECESARIA

Lifting / sollevamento / elevactión	$\mathbf{P}\ [KW] = \frac{\mathbf{M}\ [Kg] \cdot \mathbf{g}\ [9.81] \cdot \mathbf{v}\ [m/s]}{\mathbf{1000}}$
Rotation / rotazione / rotaction	$\mathbf{P}\ [KW] = \frac{\mathbf{M}\ [Nm] \cdot \mathbf{n}\ [rpm]}{\mathbf{9550}}$
Linear movement / traslazione / translacion	$\mathbf{P}\ [KW] = \frac{\mathbf{F}\ [N] \cdot \mathbf{v}\ [m/s]}{\mathbf{1000}}$

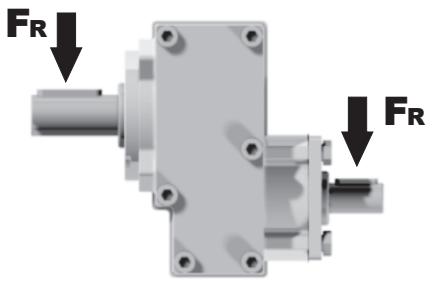
TORQUE / COPPIA / PAR

	$\mathbf{M}\ [Nm] = \frac{\mathbf{9550} \cdot \mathbf{P}[KW]}{\mathbf{n}\ [rpm]}$
	$\mathbf{M}\ [lb\ in] = \frac{\mathbf{63030} \cdot \mathbf{P}[HP]}{\mathbf{n}\ [rpm]}$

4

RADIAL LOADS / CARICHI RADIALI / CARGA RADIAL Y AXIAL

- Radial load generated by external transmissions keyed onto input and/or output shafts.
- Forza radiale generata da organi di trasmissione calettati sugli alberi di ingresso e/o uscita.
- Cargas radiales, generada por transmisiones externas, aplicadas sobre los ejes de entrada y/o salida



$F_R\ [N] = \frac{M\ [Nm] \cdot 2000}{d\ [mm]} \cdot f_K$	$F_R\ [N] = \frac{M\ [lb\ in] \cdot 8.9}{d\ [in]} \cdot f_K$

M	Momento torcente / Output torque / Par torsion
d	Diametro primitivo / Diam. of driving element / Diámetro primitivo
f_K	Coefficiente di trasformazione / Factor / Coeficiente de transmisión **1.15** Ingranaggi / Gearwheels / Engranaje **1.25** Catena / Chain sprochets / Cadena **1.75** Cinghia Trapezoidale / Narrow v-belt pulley / Correa trapezoidal **2.50** Cinghia piatta / Flat-belt pulley / Correa plana

— If your application requires higher radial loads, contact our technical office. Higher load may be possible.
— Nel caso la vostra applicazione richieda carichi radiali superiori consultare il nostro ufficio tecnico, valori maggiori possono essere accettati.
— En el caso en que una aplicación exija una carga radial superior a la especificada en el catálogo, consultar a nuestra oficinas técnica.

B Output speed / Velocità in uscita / Velocidad de salida

Nominal power / Potenza nominale / Potencia nominal

Gear size / Grandezza riduttore / Tamaño reductor

Motor power / Potenza motore / Potencia motor

A Nominal torque / Momento torcente nominale / Par de torsión nominal

Flange code / Codice flangia / Código bridas

Preferential ratio / Rapporto preferenziale / Relación preferente

Input speed / Velocità in entrata / Velocidad de entrada

311A One step 266lb in Rating - Alluminum ONE STEP GEARBOXES

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1750 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f.s.	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges -W	Available NEMA motor flanges -		Output Shaft ø	Ratios code
							56C	-			
1113.6	**1.57**	0.75	56	2.1	2.07	115			2844		-
615.7	**2.84**	0.75	100	2.0	2.03	204			1954	**standard ø0.625**	
531.3	**3.29**	0.75	116	2.0	1.98	230			1756		

C Ratio / Rapporto / Relación

Transmitted torque / Momento torcente trasmesso / Par transmitido

Service factor / Fattore di servizio / Factor de servicio

Output Shaft diam. / Diam. albero uscita / Diametro eje de salida

Notes / Note / Notas

fs

Type of load and starts per hour / Tipo di carico e avviamenti per ora		Oper. hours per day / Ore di funz. giorn. 3 h	10 h	24 h
Continuous or intermittent appl. with start / hour ≤ 10 / Applicazione cont. o interm. con n.ro operazioni/ora	Uniform / Uniforme	0.8	1	1.25
	Moderate / Moderato	1	1.25	1.5
	Heavy / Forte	1.25	1.5	1.75
Intermittent application with start / hour > 10 / Applicazione intermittente con n.ro operazioni/ora	Uniform / Uniforme	1	1.25	1.5
	Moderate / Moderato	1.25	1.5	1.75
	Heavy / Forte	1.5	1.75	2.15

D Motor flange available / Flange disponibili / Bridas disponibles

B) Mounting with reduction ring / Montaggio con boccola di riduzione / Montaje con casquillo de reducción

C) Motor flangeholes position/terminal box position / Posizione fori flangia/basetta motore / Posición agujeros brida / base motor

B) Available without reduction bushes / Disponibile anche senza boccola / Disponible tambien sin casquillo

A	Select required torque (according to service factor)	Seleziona la coppia desiderata (comprensiva del fattore di servizio)	Seleccionar el par deseado (incluyendo el factor de servicio)
B	Select ouput speed	Seleziona la velocità in uscita	Seleccionar la velocidad de salida
C	On the same line of selected geared motor, you can find the gear ratio	Sulla riga corrispondente alla motorizzazione prescelta si può rilevare il rapporto di riduzione	En la línea correspondiente al motor preseleccionado es posible encontrar la relación de reducción
D	Select motor flange available (if requested)	Scegli la flangia disponibile (se richiesta)	Seleccionar la brida disponible (sobre pedido)

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1750 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f.s.	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges -W 56C	Available NEMA motor flanges - -		Output Shaft ø	Ratios code
853	**2.05**	0.75	54	1.6	1.22	89			1939		01
744	**2.35**	0.75	62	1.7	1.28	106			1740		02
625	**2.80**	0.75	74	1.7	1.25	124			1542		03
517	**3.38**	0.75	90	1.7	1.26	150			1344	**standard ø0.625**	04
372	**4.70**	0.75	124	1.4	1.07	177			1047		05
281	**6.22**	0.75	165	1.2	0.93	204			956		06
211	**8.29**	0.5	146	1.2	0.61	177			758		07
178	**9.83**	0.33	115	1.2	0.41	142			659		08

The dynamic efficiency is **0.98** for all ratios

Motor Flanges Available Flange Motore Disponibili

B) **Supplied with Reduction Bushing** Fornito con Bussola di Riduzione

B) **Available on Request without reduction bushing** Disponibile a Richiesta senza Bussola di Riduzione

C) **Motor Flange Holes Position** Posizione Fori Flangia Motore

EN Unit **211A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.
For complete documentation please visit our web site.

I Il riduttore **211A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.
Per la documentazione completa consulta il nostro sito.

E El reductor tamaño **211A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.
Para documentación completa, consultar nuestra Web.

▪ LUBRICATION 211A Oil Quantity 1.76 ounces

SHELL Omala S4 WE 320	**ENI** Telium VSF 320

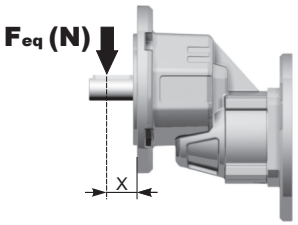
For all details on lubrication and plugs check our website
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

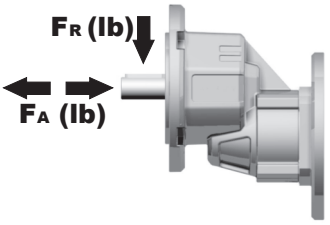
tab. 1

▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita

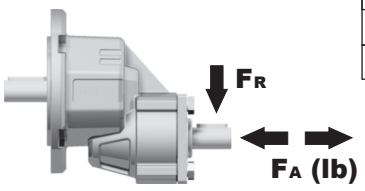
$$Feq = FR \cdot \frac{1.54}{X+0.77}$$





n_2	FA	FR
700	22.7	113.3
600	27.0	134.9
400	31.0	156.5
300	33.9	170.0
200	39.3	196.9
140	43.2	215.8

Input shaft
albero in entrata



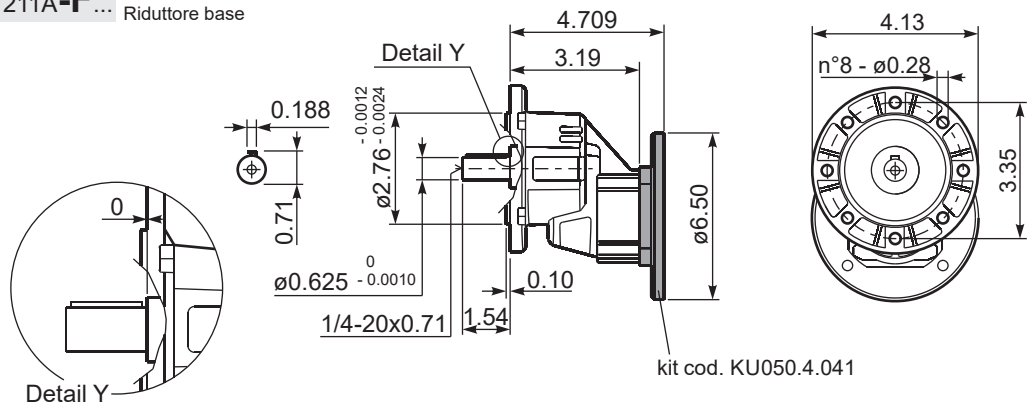
n_2	FA	FR
1750	37.8	188.8
1140	43.2	215.8

***Strong axial loads in the DX direction are not allowed.**
Non sono consentiti forti carichi assiali con direzione DX

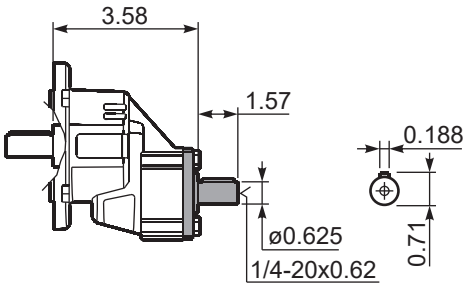
tab. 2

P211A-**F**... Basic wormbox
Riduttore base

Gearbox weight peso riduttore	3.09 lb



R211A-F... Basic wormbox
Riduttore base



4

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1750 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f.s.	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges -W 56C	Available NEMA motor flanges - -		Output Shaft ø	Ratios code
1114	**1.57**	1	55	2.1	**2.07**	**115**			2844		01
616	**2.84**	1	100	2.0	**2.03**	**204**			1954	**standard ø0.625**	02
531	**3.29**	1	116	2.0	**1.98**	**230**			1756		03
453	**3.87**	1	136	1.8	**1.82**	**248**			1558		04
379	**4.62**	1	163	1.6	**1.63**	**266**			1360	On request ø0.750 ø0.875	05
278	**6.30**	1	222	1.4	**1.39**	**310**			1063		06
213	**8.22**	0.75	218	1.5	**1.16**	**336**			974		07
161	**10.86**	0.50	192	1.3	**0.65**	**248**			776		08

The dynamic efficiency is **0.98** for all ratios

Motor Flanges Available Flange Motore Disponibili

B) **Supplied with Reduction Bushing** Fornito con Bussola di Riduzione

B) **Available on Request without reduction bushing** Disponibile a Richiesta senza Bussola di Riduzione

C) **Motor Flange Holes Position** Posizione Fori Flangia Motore

4

EN Unit **311A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.
For complete documentation please visit our web site.

I Il riduttore **311A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.
Per la documentazione completa consulta il nostro sito.

E El reductor tamaño **311A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.
Para documentación completa, consultar nuestra Web.

▪ LUBRICATION 311A Oil Quantity 3.52 Ounces

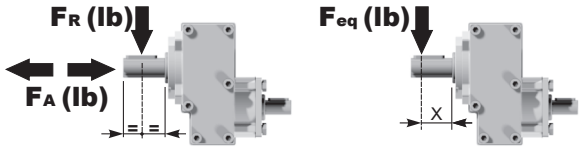
SHELL Omala S4 WE 320	**ENI** Telium VSF 320

For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS

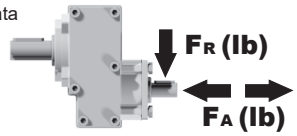
Output shaft
Albero di uscita

$$Feq = FR \cdot \frac{1.61}{X+0.83}$$



n_2	FA	FR	n_2	FA	FR	n_2	FA	FR
700	18.9	94.4	**400**	25.8	130.3	**200**	32.8	164.0
600	22.5	112.3	**300**	28.3	141.5	**140**	35.9	179.7

Input shaft
Albero in entrata

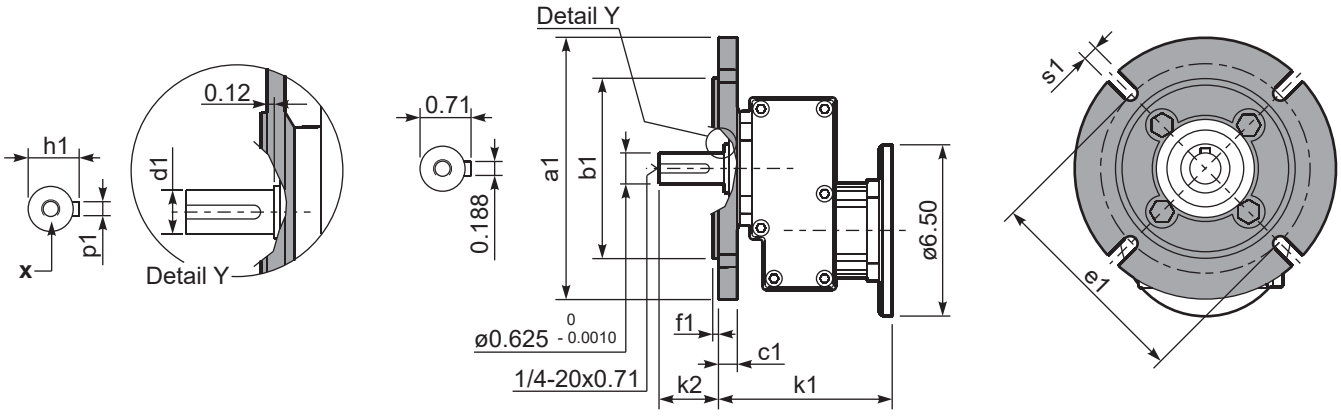


n_1	FA	FR
1750	31.4	157.3
1140	35.9	179.7

tab. 2

P311-**F**... Output flange
flange di uscita

Gearbox weight peso riduttore		
	Mold base	**4.41 lb**
	With flange	**5.29 lb**



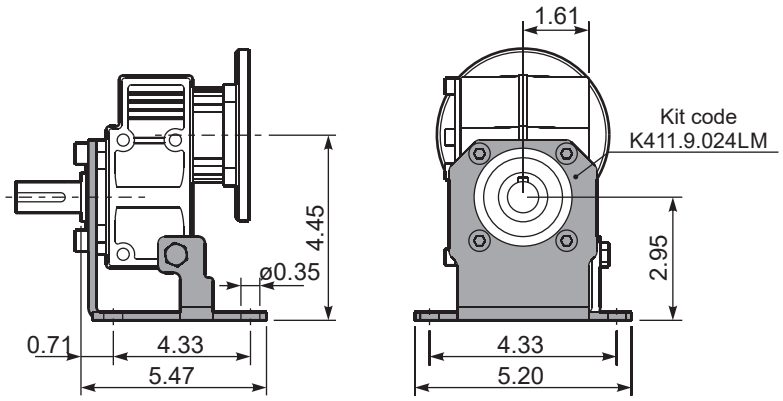
***Available output shaft** / Albero di uscita

	Shaft - d1	p1	h1	x
Standard	ø0.625x2.06	0.188	0.71	1/4-20x0.71
On request A richiesta	ø0.750x2.125	0.188	0.83	1/4-20x0.71
	ø0.875x2.125	0.188	0.96	1/4-20x0.71

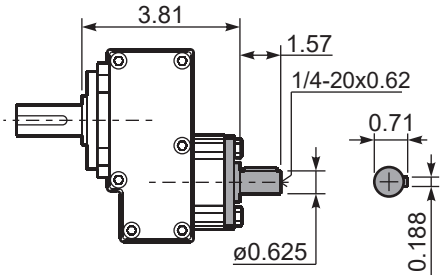
Available output flanges / flange di uscita

a1 ø	b1	c1	e1	f1	k1	k2	s1	kit code	Type
6.50	4.50 -0.0017 -0.0033	0.39	5.87	0.13	5.19	1.84	0.41	KU311.9.012	Nema
5.51	3.74 -0.0014 -0.0028	0.45	4.53	0.12	5.09	1.92	0.35	KC30.9.011	Metric
6.30	4.33 -0.0014 -0.0028	0.45	5.12	0.14	5.09	1.92	0.35	KC30.9.012	Metric
7.87	5.12 -0.0017 -0.0033	0.45	6.50	0.14	5.09	1.92	0.43	KC30.9.013	Metric

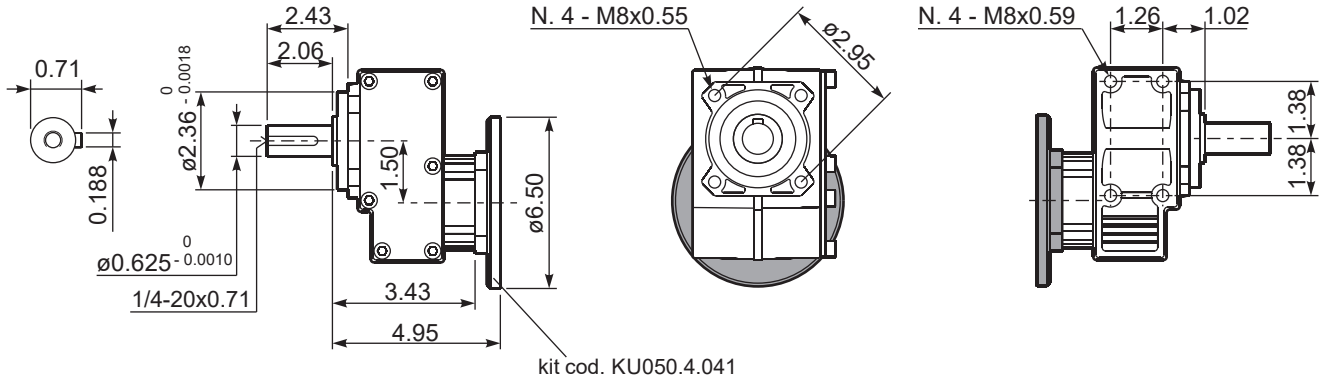
P311-**H1**... With feet
Con piedini



R311-N... Input Shaft
Albero in entrata



P311-**N**... Basic gearbox
Riduttore base



▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1750 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f.s.	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges -W 56C	Available NEMA motor flanges -X 143/5TC		Output Shaft ø	Ratios code
1114	**1.57**	2	111	1.6	3.19	177			2844		01
616	**2.84**	2	201	1.5	3.09	310			1954	**standard ø0.750**	02
531	**3.29**	2	233	1.4	2.89	336			1756		03
453	**3.87**	2	273	1.3	2.59	354			1558		04
379	**4.62**	2	326	1.3	2.55	416			1360	On request ø0.625 ø0.875	05
278	**6.30**	1.5	334	1.2	1.83	407			1063		06
213	**8.22**	0.75	218	1.5	1.16	336			974		07
161	**10.86**	0.5	192	1.3	0.65	248			776		08

The dynamic efficiency is **0.98** for all ratios

Motor Flanges Available Flange Motore Disponibili

B) **Supplied with Reduction Bushing** Fornito con Bussola di Riduzione

B) **Available on Request without reduction bushing** Disponibile a Richiesta senza Bussola di Riduzione

C) **Motor Flange Holes Position** Posizione Fori Flangia Motore

4

EN Unit **411A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.
For complete documentation please visit our web site.

I Il riduttore **411A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.
Per la documentazione completa consulta il nostro sito.

E El reductor tamaño **411A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.
Para documentación completa, consultar nuestra Web.

▪ LUBRICATION 411A Oil Quantity 3.52 Ounces

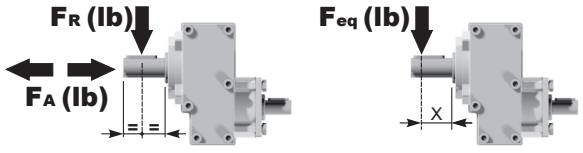
SHELL Omala S4 WE 320	**ENI** Telium VSF 320

For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS

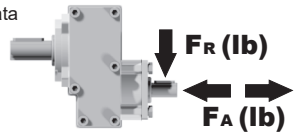
Output shaft
Albero di uscita

$$Feq = FR \cdot \frac{1.81}{X+0.83}$$



n_2	FA	FR	n_2	FA	FR	n_2	FA	FR
700	40.9	204.4	**400**	51.7	258.4	**200**	65.1	325.8
600	44.9	224.7	**300**	56.2	280.8	**140**	71.9	359.5

Input shaft
Albero in entrata

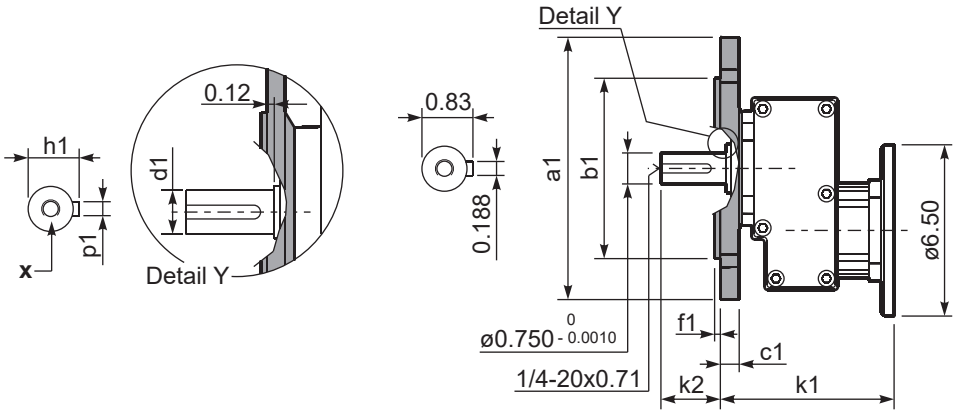


n_1	FA	FR
1750	53.9	269.6
1140	62.9	314.5

tab. 2

P411-**F**... Output flange
flange di uscita

Gearbox weight peso riduttore		
	Mold base	**6.39 lb**
	With flange	**7.27 lb**



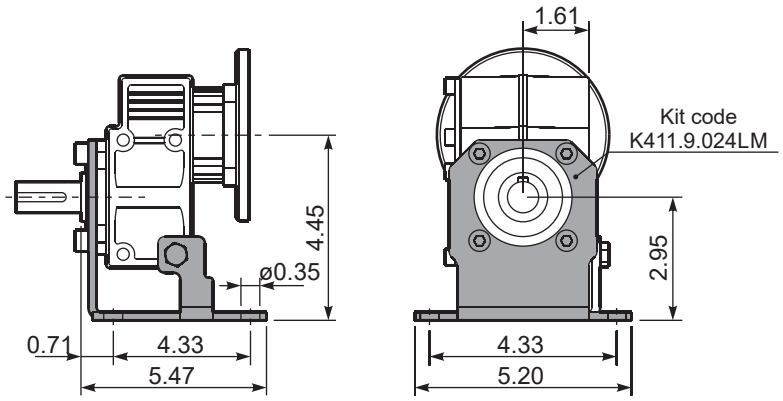
***Available output shaft** / Albero di uscita

	Shaft - d1	p1	h1	x
Standard	ø0.750x2.125	0.188	0.83	1/4-20x0.71
On request A richiesta	ø0.625x2.06	0.188	0.71	1/4-20x0.71
	ø0.875x2.125	0.188	0.96	1/4-20x0.71

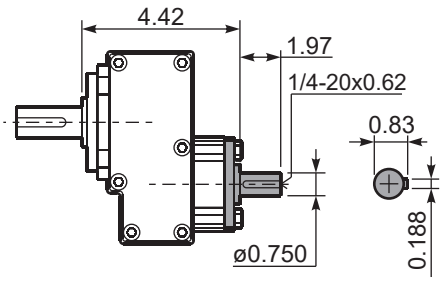
Available output flanges / flange di uscita

a1 ø	b1	c1	e1	f1	k1	k2	s1	kit code	Type
6.50	4.50 -0.0017 -0.0033	0.39	5.87	0.13	5.51	1.91	0.41	KU311.9.012	Nema
5.51	3.74 -0.0014 -0.0028	0.45	4.53	0.12	5.42	1.99	0.35	KC30.9.011	Metric
6.30	4.33 -0.0014 -0.0028	0.45	5.12	0.14	5.42	1.99	0.35	KC30.9.012	
7.87	5.12 -0.0017 -0.0033	0.45	6.50	0.14	5.42	1.99	0.43	KC30.9.013	

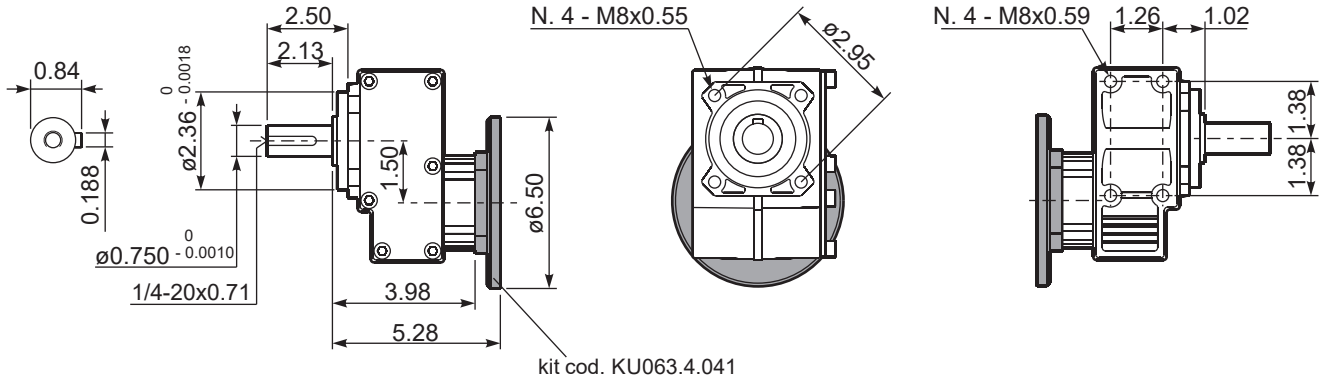
P411-**H1**... With feet
Con piedini



R411-N... Input Shaft
Albero in entrata



P411-**N**... Basic gearbox
Riduttore base



▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1750 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f.s.	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges -X 143/5TC	Available NEMA motor flanges -Y 182/4TC		Output Shaft ø	Ratios code
1346	**1.30**	5	229	1.5	7.72	354			3039		01
714	**2.45**	5	432	1.4	7.16	620			2049		02
528	**3.31**	5	585	1.4	6.81	797			1653		03
406	**4.31**	3	456	2.1	6.40	974			1356	**standard ø1.125**	04
332	**5.27**	3	558	1.7	5.23	974			1158		05
230	**7.63**	2	538	1.8	3.62	974			861		06
167	**10.50**	1.5	556	1.3	1.91	708			663		07

The dynamic efficiency is **0.98** for all ratios

Motor Flanges Available / Flange Motore Disponibili

B) **Supplied with Reduction Bushing** / Fornito con Bussola di Riduzione

B) **Available on Request without reduction bushing** / Disponibile a Richiesta senza Bussola di Riduzione

C) **Motor Flange Holes Position** / Posizione Fori Flangia Motore

4

EN Unit **511A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.
For complete documentation please visit our web site.

I Il riduttore **511A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.
Per la documentazione completa consulta il nostro sito.

E El reductor tamaño **511A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.
Para documentación completa, consultar nuestra Web.

▪ LUBRICATION 511A Oil Quantity 10.21 Ounces

SHELL Omala S4 WE 320	**ENI** Telium VSF 320

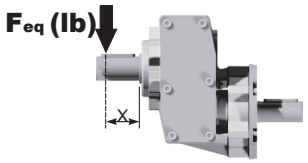
For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita

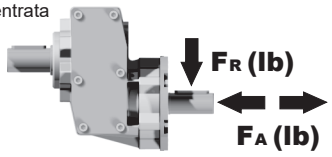
F_R (lb)
F_A (lb)

$F_{eq} = F_R \cdot \frac{1.88}{X+0.90}$



n_2	FA	FR	n_2	FA	FR	n_2	FA	FR
700	66.0	330.3	**400**	83.1	415.6	**200**	103.3	516.7
600	71.9	359.5	**300**	89.9	449.3	**140**	114.6	572.9

Input shaft
Albero in entrata

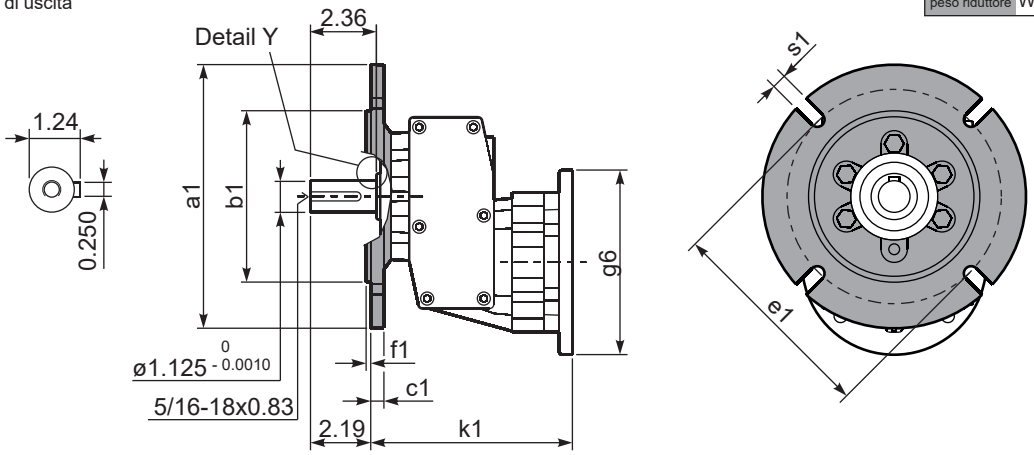


n_1	FA	FR
1750	89.9	449.3
1140	98.8	494.3

tab. 2

Gearbox weight / peso riduttore: Mold base 10.8 lb; With flange 12.8 lb

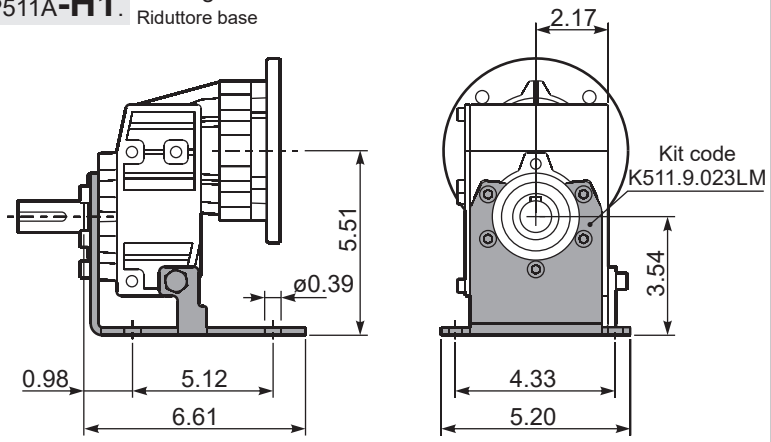
P511-F... Output flanges
flange di uscita



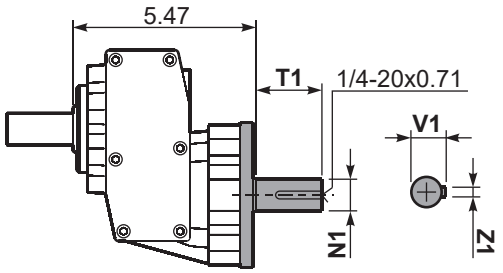
Available output flanges / flange di uscita

a1 ø	b1	c1	e1	f1	s1	kit code	Type
6.50	4.50 -0.0017 -0.0033	0.61	5.87	0.13	0.41	KU511.9.012	Nema
5.51	3.74 -0.0014 -0.0028	0.39	4.53	0.12	0.35	KC40.9.011	Metric
6.30	4.33 -0.0014 -0.0028	0.39	5.12	0.14	0.35	KC40.9.012	
7.87	5.12 -0.0014 -0.0028	0.43	6.50	0.14	0.43	KC40.9.013	
9.84	7.09 -0.0017 -0.0033	0.45	8.46	0.14	0.55	KC40.9.014	

P511A-H1. Basic gearbox
Riduttore base

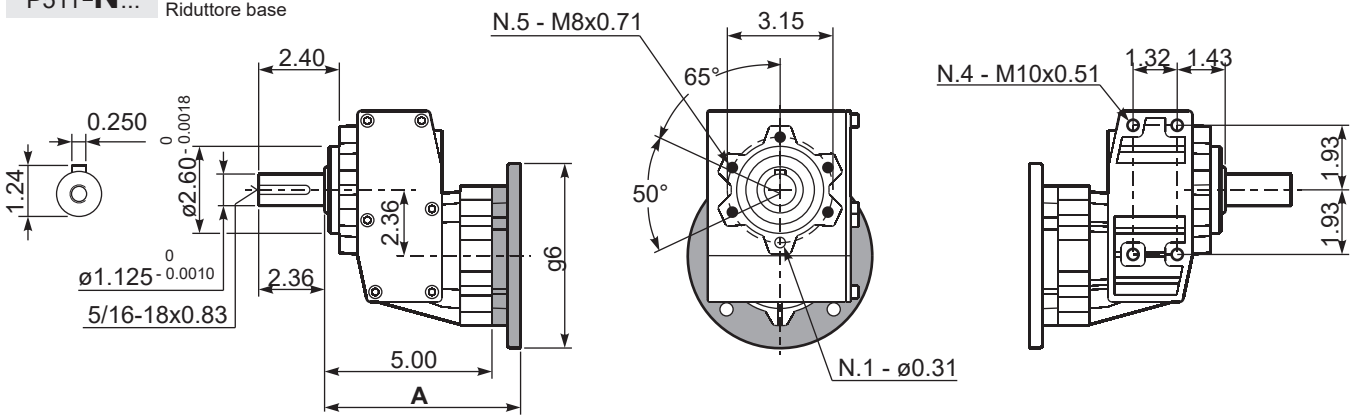


R511A-N... Input Shaft
Albero in entrata



Input shaft	N1	T1	V1	Z1	kit code
Standard	0.875	1.97	0.96	0.188	KC50.5.070U
On request	0.750	1.97	0.83	0.188	KC50.5.069U

P511-N... Basic gearbox
Riduttore base



Nema flanges	A	k1	g6	kit code
143/5TC	5.98	6.15	6.50	KU085.4.041
182/4TC	6.69	6.86	8.88	KU085.4.042

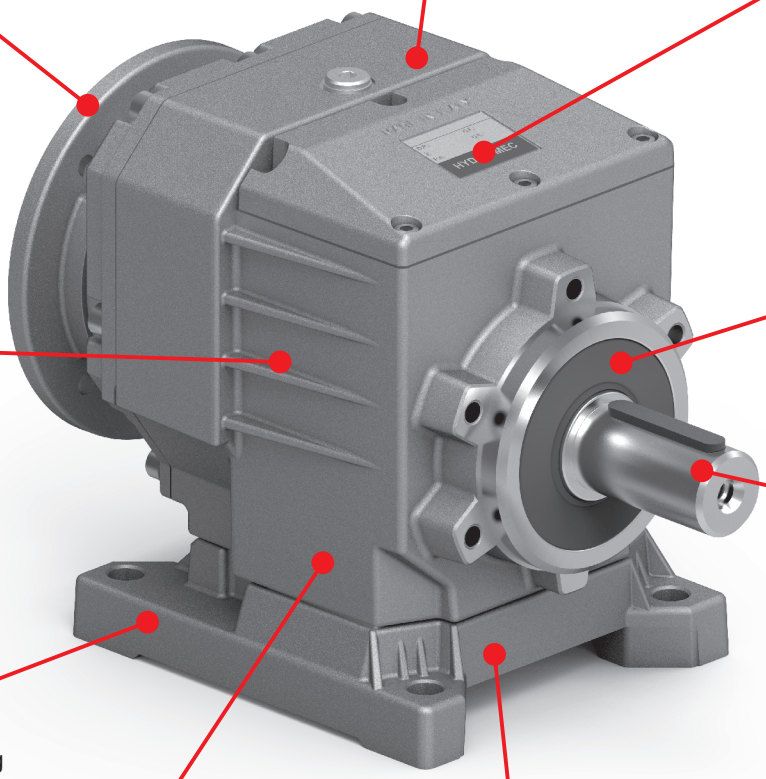
Aluminum in line gearboxes

A modular and compact product

Alloy housing
Is vacuum impregnated (MIL-STD 276) for protection and sealing. No secondary finish required but readily accepts paint

Flange
Fully modular to IEC and Compact integrated motor.
NEMA C flange

Removable inspection cover
Allows periodic inspection of gearing during routine maintenance



Oil seals
Two oil seals on request

Gears
Hardened and ground gears.

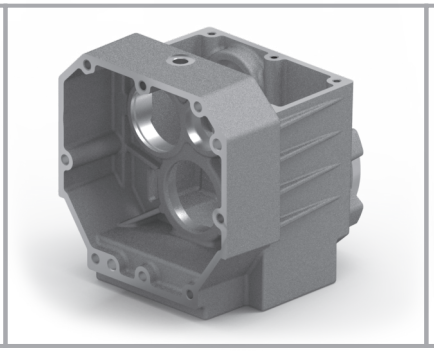
Output shaft
With well proportioned bearings

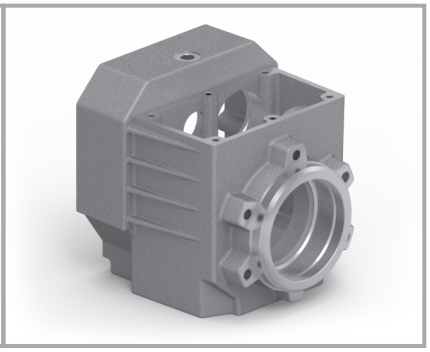
Feet
Removable feet.
With patented locking system.

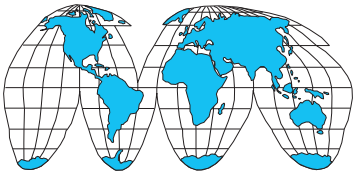
Foot prints
Compatible to the main standard of the market.

Lubricated for life with synthetic oil
with operative range
from -15° to +130°C

Single-piece aluminum alloy housing
Combines light weight with high tensile strength.
Precision machined for alignment of bearings and gearing

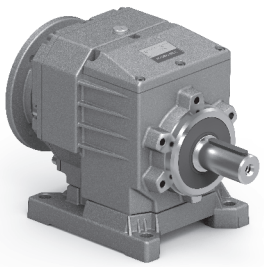






World wide sales network.

Specific type datasheet on page...



Types / Tipi / Tipos

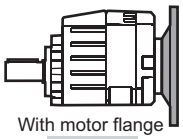
On page / A pagina / En la página

5-5	5-7	5-9	5-11	5-13	5-15	5-17	5-19	5-21
202A 620lb in	**302A** 1062lb in	**412A** 1550lb in	**413A** 1550lb in	**452A** 2600lb in	**512A** 3180lb in	**513A** 3180lb in	**612A** 4690lb in	**613A** 4690lb in

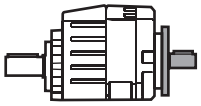
Type - Tipo - Typ Type - Tipo	**Size** - Grandezza - Grösse Taille - Tamaño	**Mounting** - Montaggio Montage - Fixation Tipo de montaje	**Ratio** - Rapporto Untersetzung Reduction - Relaciòn
P	**412A**	**-F**	**7.33**

Aluminum coaxial gear boxes
Riduttori coassiali in alluminio

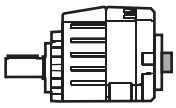
With IEC motor
M



With motor flange
P



With male input shaft
R



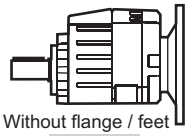
Modular base
B

2 Stages
Riduzioni
Stufen
Trains
Etapas

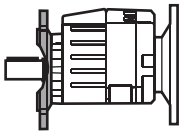
202A
302A
412A
452A
512A
612A

3 Stages
Riduzioni
Stufen
Trains
Etapas

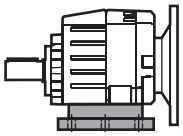
413A
513A
613A



Without flange / feet
-N



Output flange mounted
-F



Mounted feet
B..

Feet / piedini

Feet Code	Market reference	G	H	R	L	L1	S
B1	112	18	85	110	87	50	
B2	212/3	18	100	130	107.5		
S1	17	18	75	110	90+20		
S2	27	25	90	110	130		
M1	42/3	25	80	110+120	85		
L4	04	13	80	105			
L5	05	16	100	125			

You see feet code in the chart of the dimensions
Vedi codice piede nella tabella delle dimensioni

See technical data table

Vedi tabelle dati tecnici

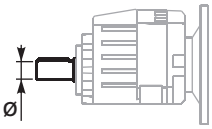
Ver tabla datos técnicos

5

Output shaft
Albero uscita
Eje en salida

X

Output shaft diameter
Diametro albero uscita



➡ **STANDARD**

202A

X ➡ ø0.625

O ⇨ ø0.750

302A

O ➡ ø0.750

X ⇨ ø0.625

412A
413A

Q ➡ ø1.000

O ⇨ ø0.750

452A
512A
513A

T ➡ ø1.250

612A
613A

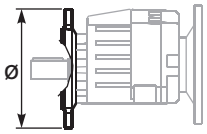
Z ➡ ø1.375

T ⇨ ø1.250

Output flange
Flangia uscita
Brida en salida

U

Output flange diameter
Diametro flangia uscita



N Senza flangia / Without flange

202A
302A

U ➡ ø6.50
2 ⇨ ø5.51
3 ⇨ ø6.30
4 ⇨ ø7.87

412A
413A

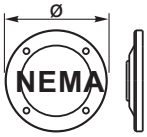
U ➡ ø6.50
2 ⇨ ø5.51
3 ⇨ ø6.30
4 ⇨ **ø7.87**

452A
512A
513A
612A
613A

U ➡ ø6.50
2 ⇨ ø5.51
3 ⇨ ø6.30
4 ⇨ ø7.87
5 ⇨ ø9.84

Motor size - Grandezza motore
Tamaño motor

-W



With Flange for type P

-W ⇨ 56C
-X ⇨ 143/5TC
-Y ⇨ 182/4TC

➡ **STANDARD**

Without flange
Senza flangia

-M With coupling / Con giunto

202A
413A

-K ➡ ø0.625

302A
412A
513A
613A

-K ⇨ ø0.625
-N ➡ ø0.875

452A
512A
612A

-K ⇨ ø0.625
-N ⇨ ø0.875
-S ➡ ø1.125

Type R
Tipo R

202A
413A

-K ➡ ø0.625

302A

-J ➡ ø0.750

412A
513A
613A

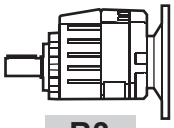
-K ⇨ ø0.625
-J ➡ ø0.750

452A
512A
612A

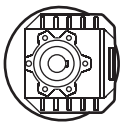
-J ⇨ ø0.750
-N ➡ ø0.875

Mounting position
Posizione montaggio
Position de montaje

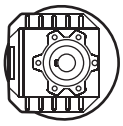
B3



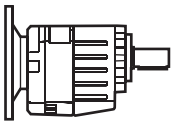
B3
STANDARD



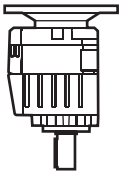
B6



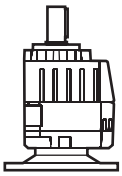
B7



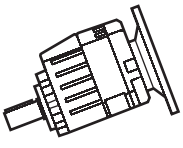
B8



V5



V6



V8

Specify only for vertical positions

Specificare solo per posizione verticale

Input bore
Foro entrata
Eingangshohlwelle
Trou d'entree
Eje hueco de entrada

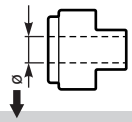
ST

ST

Nothing indication:
standard bore

Nessuna indicazione:
foro standard

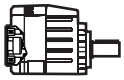
COUPLING



-W = ø0.625"
-X = ø0.875"
-Y = ø1.125"

0

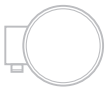
Ready for input coupling
Predisposto per giunto



Terminal box position
Posizione morsettiera
Posición caja de bornes

With Type M specify terminal box position

Con tipo M specificare posizione morsettiera



A

B
STANDARD

C

D

5

POTENZA RICHIESTA / REQUIRED POWER / ERFORDERLICHE LEISTUNG / PUISSANCE NECESSAIRE / POTENCIA NECESARIA

Lifting / sollevamento / hubantriebe / levage / elevactión	$\mathbf{P}\ [KW] = \frac{\mathbf{M}\ [Kg] \cdot \mathbf{g}\ [9.81] \cdot \mathbf{v}\ [m/s]}{\mathbf{1000}}$
Rotation / rotazione / drehung / rotation / rotaction	$\mathbf{P}\ [KW] = \frac{\mathbf{M}\ [Nm] \cdot \mathbf{n}\ [rpm]}{\mathbf{9550}}$
Linear movement / traslazione / linearbewegung / translation / translacion	$\mathbf{P}\ [KW] = \frac{\mathbf{F}\ [N] \cdot \mathbf{v}\ [m/s]}{\mathbf{1000}}$

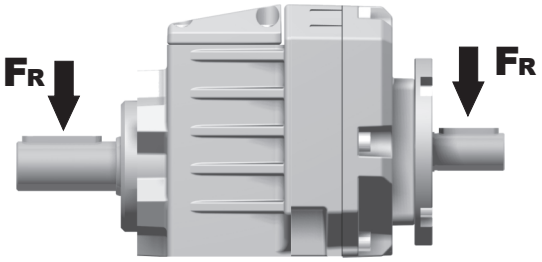
TORQUE / COPPIA / DREHMOMENT / COUPLE / PAR

	$\mathbf{M}\ [Nm] = \frac{\mathbf{9550} \cdot \mathbf{P}[KW]}{\mathbf{n}\ [rpm]}$
	$\mathbf{M}\ [lb\ in] = \frac{\mathbf{63030} \cdot \mathbf{P}[HP]}{\mathbf{n}\ [rpm]}$

5

RADIAL LOADS / CARICHI RADIALI / RADIALE - UND AXIALLASTEN / CHARGES RADIALES / CARGA RADIAL Y AXIAL

- Radial load generated by external transmissions keyed onto input and/or output shafts.
- Forza radiale generata da organi di trasmissione calettati sugli alberi di ingresso e/o uscita.
- Belastungen der Antriebs- bzw. Abtriebswellen durch von aussen eingebrachte Radiallasten.
- Charge radiale générée par la transmissions calés sur les entrées et / ou des arbres de sortie
- Cargas radiales, generada por transmisiones externas, aplicadas sobre los ejes de entrada y/o salida



$\mathbf{F_R}\ [N] = \frac{\mathbf{M}\ [Nm] \cdot \mathbf{2000}}{\mathbf{d}\ [mm]} \cdot \mathbf{f_K}$	$\mathbf{F_R}\ [N] = \frac{\mathbf{M}\ [lb\ in] \cdot \mathbf{8.9}}{\mathbf{d}\ [in]} \cdot \mathbf{f_K}$

M	Momento torcente / Output torque / Abtriebsdrehmoment / Couple / Par torsion
d	Diametro primitivo / Diam. of driving element / Durchmesser der Abtriebseinheit / Diamètre primitif / Diámetro primitivo
$\mathbf{f_K}$	Coefficiente di trasformazione / Factor / Faktor / Coefficient de transmission / Coeficiente de transmisión **1.15** Ingranaggi / Gearwheels / Zahnrad / Engrenage / Engranaje **1.25** Catena / Chain sprochets / Antriebskette / Chaîne / Cadena **1.75** Cinghia Trapezoidale / Narrow v-belt pulley / Keilriemen / Courroie trap. / Correa trapezoidal **2.50** Cinghia piatta / Flat-belt pulley / Flachzahnriem. / Courroie crantée / Correa plana

— If your application requires higher radial loads, contact our technical office. Higher load may be possible.
— Nel caso la vostra applicazione richieda carichi radiali superiori consultare il nostro ufficio tecnico, valori maggiori possono essere accettati.
— Wenn Ihre Anwendung höhere Radialbelastungen erfordert, so wenden Sie sich bitte an unser technischen Büro.
— Si votre application demande des charges radiales supérieures, s'adresser à notre bureau technique.
— En el caso en que una aplicación exija una carga radial superior a la especificada en el catálogo, consultar a nuestra oficinas técnica.

B Output speed / Velocità in uscita / Velocidad de salida

Nominal power / Potenza nominale / Potencia nominal

Gear size / Grandezza riduttore / Tamaño reductor

Motor power / Potenza motore / Potencia motor

A Nominal torque / Momento torcente nominale / Par de torsión nominal

Flange code / Codice flangia / Código bridas

Preferential ratio / Rapporto preferenziale / Relación preferente

Input speed / Velocità in entrata / Velocidad de entrada

412A Coaxial - Gear 1550lb in

Rating - Alluminum COAXIAL GEAR BOXES

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1750 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f.s.	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges -W 56C	Available NEMA motor flanges -X 143/5 TC		Output Shaft Ø	Ratios code
498	**3.52**	2	243	2.9	5.82	708			2821		01
401	**4.37**	2	302	2.6	5.28	797			2818		02
315	**5.56**	2	385	2.3	4.60	885			2813		03
275	**6.36**	2	440	2.1	4.23	929			1921		04
239	**7.33**	2	507	2.1	4.19	1062			2812		05

C Ratio / Rapporto / Relación

Transmitted torque / Momento torcente trasmesso / Par transmitido

Service factor / Fattore di servizio / Factor de servicio

Output Shaft diam. / Diam. albero uscita / Diametro eje de salida

Notes / Note / Notas

D Motor flange available / Flange disponibili / Bridas disponibles

B) Mounting with reduction ring / Montaggio con boccola di riduzione / Montaje con casquillo de reducción

C) Motor flangeholes position/terminal box position / Posizione fori flangia/basetta motore / Posición agujeros brida / base motor

B) Available without reduction bushes / Disponibile anche senza boccola / Disponible tambien sin casquillo

fs

Type of load and starts per hour / Tipo di carico e avviamenti per ora		Oper. hours per day / Ore di funz. giorn. 3 h	10 h	24 h
Continuous or intermittent appl. with start / hour Applicazione cont. o interm. con n.ro operazioni/ora **≤ 10**	Uniform / Uniforme	0.8	1	1.25
	Moderate / Moderato	1	1.25	1.5
	Heavy / Forte	1.25	1.5	1.75
Intermittent application with start / hour Applicazione intermittente con n.ro operazioni/ora **> 10**	Uniform / Uniforme	1	1.25	1.5
	Moderate / Moderato	1.25	1.5	1.75
	Heavy / Forte	1.5	1.75	2.15

A	Select required torque (according to service factor)	Seleziona la coppia desiderata (comprensiva del fattore di servizio)	Seleccionar el par deseado (incluyendo el factor de servicio)
B	Select ouput speed	Seleziona la velocità in uscita	Seleccionar la velocidad de salida
C	On the same line of selected geared motor, you can find the gear ratio	Sulla riga corrispondente alla motorizzazione prescelta si può rilevare il rapporto di riduzione	En la línea correspondiente al motor preseleccionado es posible encontrar la relación de reducción
D	Select motor flange available (if requested)	Scegli la flangia disponibile (se richiesta)	Seleccionar la brida disponible (sobre pedido)

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1750 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f.s.	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges -W 56C	Available NEMA motor flanges - -		Output Shaft ø	Ratios code
508	**3.44**	1	119	1.9	**1.86**	**221**			2821		01
409	**4.28**	1	148	1.8	**1.80**	**266**			2818		02
321	**5.45**	1	188	1.9	**1.88**	**354**			2815		03
281	**6.23**	1	215	1.9	**1.85**	**398**			1921		04
243	**7.20**	1	249	1.8	**1.78**	**443**			2812		05
226	**7.74**	1	268	1.7	**1.65**	**443**			1918		06
178	**9.85**	1	341	1.6	**1.56**	**531**			1915		07
153	**11.42**	1	395	1.3	**1.34**	**531**			1715	**standard ø0.625**	08
134	**13.03**	0.75	338	1.6	**1.18**	**531**			1912		09
116	**15.10**	0.75	392	1.4	**1.02**	**531**			1712		10
108	**16.20**	0.75	420	1.3	**0.95**	**531**			1910	On request ø0.750	11
93	**18.78**	0.75	487	1.1	**0.82**	**531**			1710		12
83	**21.15**	0.75	549	1.0	**0.73**	**531**			1312		13
80	**21.84**	0.5	378	1.4	**0.70**	**531**			1015		14
67	**26.31**	0.5	455	1.2	**0.58**	**531**			1310		15
61	**28.88**	0.5	499	1.2	**0.62**	**620**			1012		16
48.7	**35.91**	0.5	621	1.0	**0.50**	**620**			1010		17
46.4	**37.69**	0.33	430	1.4	**0.48**	**620**			912		18
37.3	**46.87**	0.33	535	1.2	**0.38**	**620**			910		19
35.2	**49.76**	0.33	568	1.1	**0.36**	**620**			712		20
28.3	**61.89**	0.25	535	1.2	**0.29**	**620**			710		21

The dynamic efficiency is **0.96** for all ratios

Motor Flanges Available Flange Motore Disponibili

B) **Supplied with Reduction Bushing** Fornito con Bussola di Riduzione

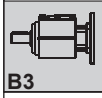
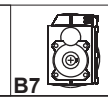
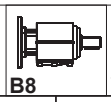
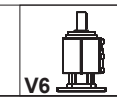
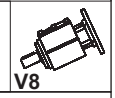
B) **Available on Request without reduction bushing** Disponibile a Richiesta senza Bussola di Riduzione

C) **Motor Flange Holes Position** Posizione Fori Flangia Motore

EN Unit **202A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.
For complete documentation please visit our web site.

I Il riduttore **202A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.
Per la documentazione completa consulta il nostro sito.

E El reductor tamaño **202A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.
Para documentación completa, consultar nuestra Web.

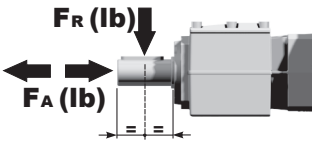
Standard supplied	Oil capacities for all mounting positions is **5.28 Ounces**						
 B3	 B6	 B7	 B8	 V5	 V6	 V8	
AGIP Telium VSF 320				**SHELL** Omala S4 WE 320			

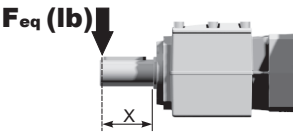
For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita

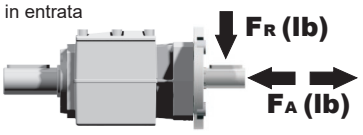
$$Feq = F_R \cdot \frac{1.52}{X+0.73}$$





n_2	FA	FR	n_2	FA	FR	n_2	FA	FR
300	31.4	157.3	**140**	55.3	296.6	**70**	76.4	381.9
250	33.9	169.8	**120**	60.7	303.3	**40**	85.4	426.9
200	41.6	207.6	**85**	67.4	337.0	**15**	-	-

Input shaft
Albero in entrata

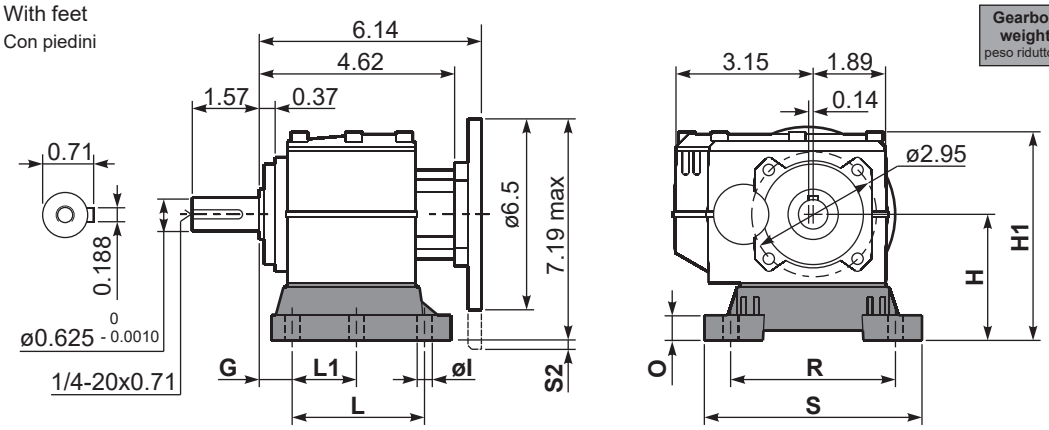


n_1	FA	FR
1750	31.5	157.4
1140	36.0	179.8

tab. 2

P202A**B1**... With feet / Con piedini

Gearbox weight / peso riduttore	
With flange	**7.27 lb**
With feet	**7.05 lb**

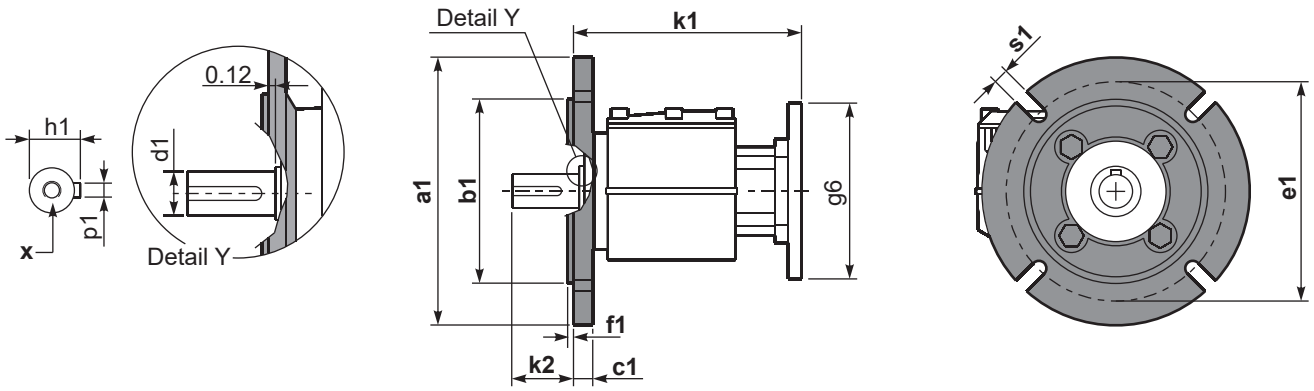


Feet Code	Market reference	G	H	R	L	L1	S	H1	O	øI	S2 only with motor flange
B1	112	0.71	3.35	4.33	3.43	1.97	5.24	4.92	0.59	0.35	-
B2	212/3	0.71	3.94	5.12	4.23	2.36	6.10	5.71	0.20	0.43	-
S1	17-32	0.71	2.95	4.33	4.33	1.97	4.84	4.55	0.59	0.35	0.30

Other feet are available, see **www.hydromec.com**
Sono disponibili altri piedini in **www.hydromec.com**

Most popular types
Tipi più diffusi

P202A-**F**... Output flanges / flange di uscita



***Available output shaft** / Albero di uscita

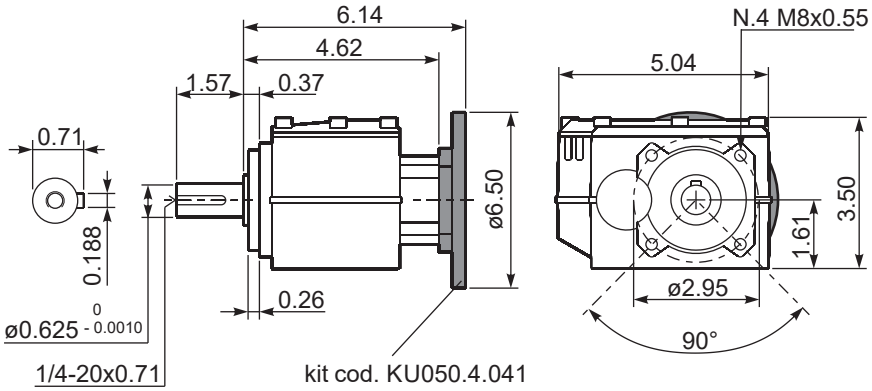
	Shaft - d1	p1	h1	x
Standard	ø0.625x1.57	0.188	0.71	1/4-20x0.71
On request / A richiesta	ø0.750x1.57	0.188	0.83	1/4-20x0.71

Available output flanges / flange di uscita

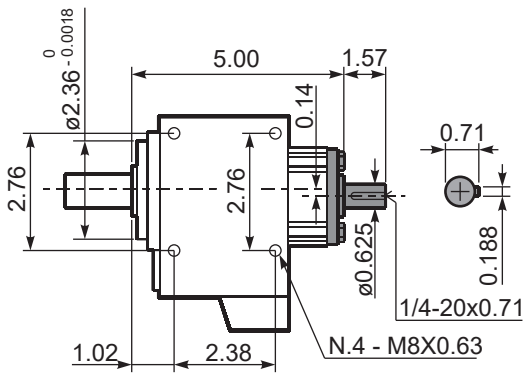
a1 ø	b1	c1	e1	f1	k1	k2	s1	kit code	Type
6.50	4.50 -0.0017 -0.0033	0.39	5.87	0.13	6.38	1.33	0.41	KU311.9.012	Nema
5.51	3.74 -0.0014 -0.0028	0.45	4.53	0.12	6.28	1.44	0.35	KC30.9.011	Metric
6.30	4.33 -0.0014 -0.0028	0.45	5.12	0.14	6.28	1.44	0.35	KC30.9.012	
7.87	5.12 -0.0017 -0.0033	0.45	6.50	0.14	6.28	1.44	0.43	KC30.9.013	

With flange and feet only on request. Ask for compatibility

P202A-**N**... Basic gearbox / Riduttore base



R202A-**N**... Input Shaft / Albero in entrata



▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1750 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f.s.	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges -W 56C	Available NEMA motor flanges -X 143/5 TC	Output Shaft ø	Ratios code
508	**3.44**	2	238	1.2	2.47	294			2821	01
409	**4.28**	2	296	1.1	2.27	336			2818	02
321	**5.45**	2	377	1.2	2.32	437			2815	03
281	**6.23**	2	431	1.4	2.73	589			1921	04
243	**7.20**	2	498	1.2	2.36	589			2812	05
226	**7.74**	2	535	1.3	2.51	673			1918	06
178	**9.85**	2	681	1.2	2.34	799			1915	07
153	**11.42**	2	790	1.2	2.45	967			1715	08
134	**13.03**	1.5	676	1.4	2.13	959			1912	09
116	**15.10**	1.5	783	1.2	1.84	959			1712	10
108	**16.20**	1	560	1.6	1.61	900			1910	11
93	**18.78**	1	649	1.4	1.39	900			1710	12
83	**21.15**	1	731	1.3	1.31	959			1312	13
80	**21.84**	1	755	1.3	1.33	1001			1015	14
67	**26.31**	0.75	682	1.3	0.99	900			1310	15
61	**28.88**	0.75	749	1.3	0.96	959			1012	16
48.7	**35.91**	0.5	621	1.4	0.72	900			1010	17
46.4	**37.69**	0.5	652	1.3	0.66	858			912	18
37.3	**46.87**	0.5	810	1.1	0.56	900			910	19
35.2	**49.76**	0.33	568	1.5	0.49	849			712	20
28.3	**61.89**	0.33	706	1.3	0.42	900			710	21

standard ø0.750

On request ø0.625

The dynamic efficiency is **0.96** for all ratios

*With "P" mounting, it's not possible to use these flanges; possibly, mount a B14 flange
Nel montaggio P non è possibile utilizzare queste flange; eventualmente utilizzare la flangia B14

Motor Flanges Available Flange Motore Disponibili

B) **Supplied with Reduction Bushing** Fornito con Bussola di Riduzione

B) **Available on Request without reduction bushing** Disponibile a Richiesta senza Bussola di Riduzione

C) **Motor Flange Holes Position** Posizione Fori Flangia Motore

EN Unit **302A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.
For complete documentation please visit our web site.

I Il riduttore **302A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.
Per la documentazione completa consulta il nostro sito.

E El reductor tamaño **302A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.
Para documentación completa, consultar nuestra Web.

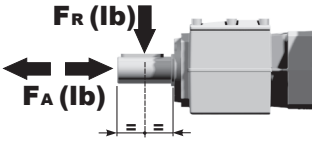
Standard supplied	Oil capacities for all mounting positions is **5.28 Ounces**					
B3	B6	B7	B8	V5	V6	V8
SHELL Omala S4 WE 320			**AGIP** Telium VSF 320			

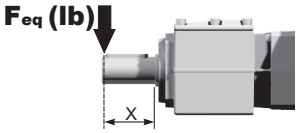
For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita

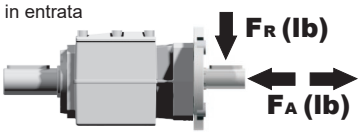
$$Feq = FR \cdot \frac{1.52}{X+0.73}$$





n_2	FA	FR	n_2	FA	FR	n_2	FA	FR
300	31.4	157.3	**140**	55.3	296.6	**70**	76.4	381.9
250	33.9	169.8	**120**	60.7	303.3	**40**	85.4	426.9
200	41.6	207.6	**85**	67.4	337.0	**15**	-	-

Input shaft
Albero in entrata

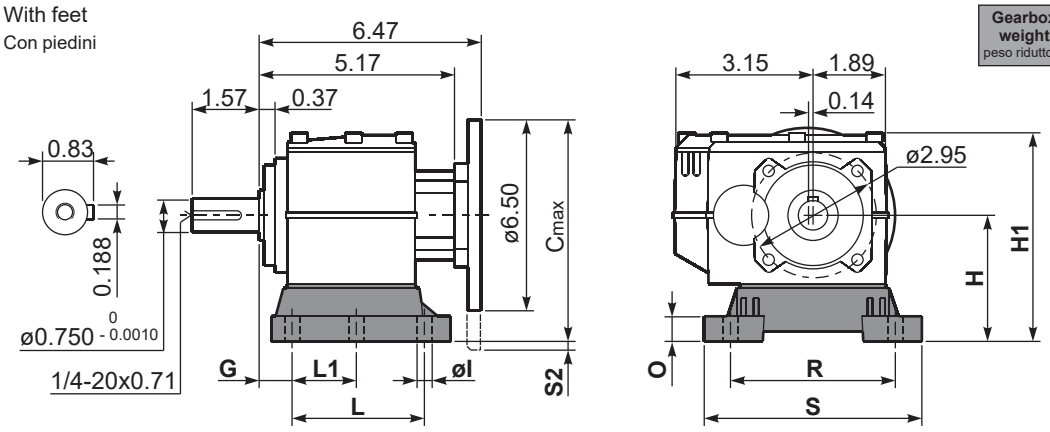


n_1	FA	FR
1750	31.5	157.4
1140	36.0	179.8

tab. 2

P302A**B1**... With feet / Con piedini

Gearbox weight / peso riduttore: With flange **8.37 lb** / With feet **8.37 lb**



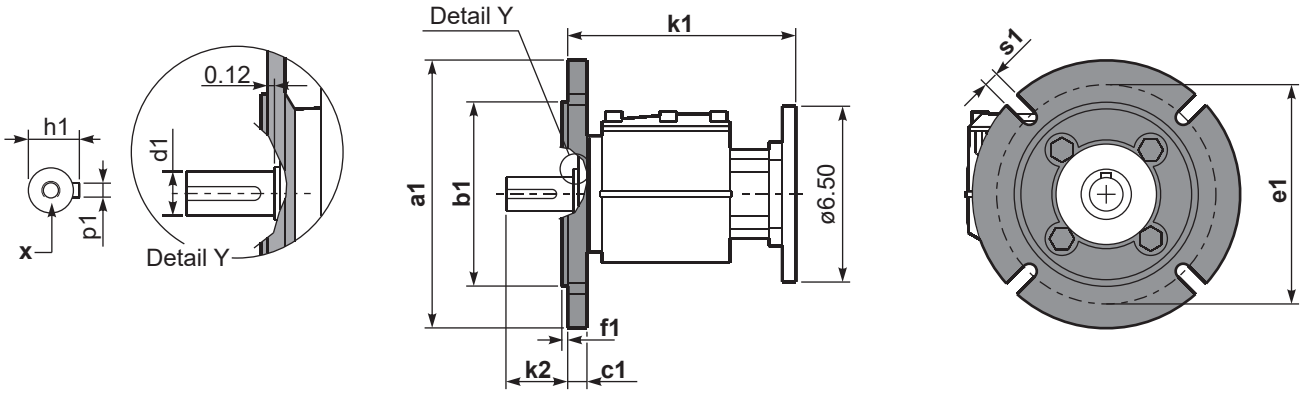
Feet Code	Market reference	G	H	R	L	L1	S	H1	O	øI	S2 only with motor flange
B1	112	0.71	3.35	4.33	3.42	1.97	5.12	5.24	0.59	0.35	-
B2	212/3	0.71	3.94	5.12	4.23	2.36	6.10	5.71	0.20	0.43	-
S1	17-32	0.71	2.95	4.33	4.33	1.97	5.12	4.84	0.59	0.35	0.3

Other feet are available, see **www.hydromec.com**

Sono disponibili altri piedini in **www.hydromec.com**

Most popular types
Tipi più diffusi

P302A-**F**... Output flanges / flange di uscita



***Available output shaft** / Albero di uscita

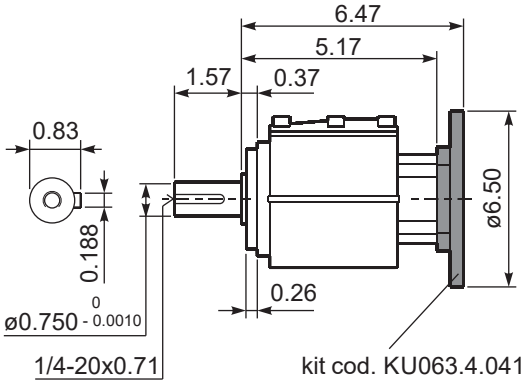
	Shaft - d1	p1	h1	x
Standard	ø0.750x1.57	0.188	0.83	1/4-20x0.71
On request / A richiesta	ø0.625x1.57	0.188	0.71	1/4-20x0.71

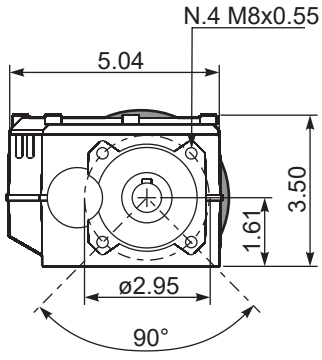
Available output flanges / flange di uscita

a1 ø	b1	c1	e1	f1	k1	k2	s1	kit code	Type
6.50	4.50 -0.0017 -0.0033	0.39	5.87	0.13	6.70	1.33	0.41	KU311.9.012	Nema
5.51	3.74 -0.0014 -0.0028	0.45	4.53	0.12	6.60	1.44	0.35	KC30.9.011	
6.30	4.33 -0.0014 -0.0028	0.45	5.12	0.14	6.60	1.44	0.35	KC30.9.012	Metric
7.87	5.12 -0.0017 -0.0033	0.45	6.50	0.14	6.60	1.44	0.43	KC30.9.013	

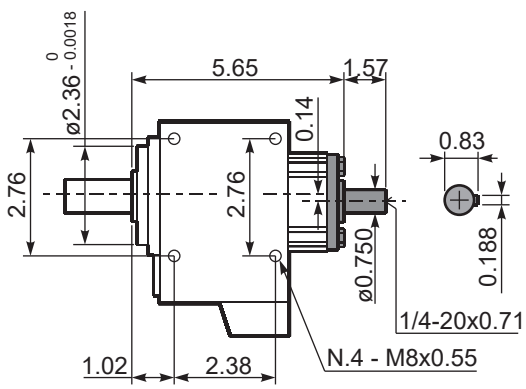
With flange and feet only on request. Ask for compatibility

P302A-**N**... Basic gearbox / Riduttore base





R302A-**N**... Input Shaft / Albero in entrata



5

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1750 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f.s.	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges -W 56C	Available NEMA motor flanges -X 143/5 TC		Output Shaft ø	Ratios code
498	**3.52**	2	243	2.9	5.82	708			2821		01
401	**4.37**	2	302	2.6	5.28	797			2818		02
315	**5.56**	2	385	2.3	4.60	885			2813		03
275	**6.36**	2	440	2.1	4.23	929			1921		04
239	**7.33**	2	507	2.1	4.19	1062			2812		05
222	**7.89**	2	546	2.1	4.22	1151			1918		06
174	**10.06**	2	695	2.1	4.20	1460			1913		08
150	**11.66**	2	806	1.8	3.62	1460			1713	**standard ø1.00**	09
132	**13.26**	2	917	1.6	3.18	1460			1912		10
128	**13.68**	2	946	1.5	3.09	1460			1513		25
114	**15.37**	2	1063	1.4	2.75	1460			1712	On request ø0.750	11
107	**16.33**	2	1129	1.3	2.59	1460			1313		26
97	**18.04**	2	1248	1.2	2.34	1460			1512		23
81	**21.54**	1.5	1117	1.3	1.96	1460			1312		14
79	**22.29**	1.5	1156	1.3	1.89	1460			1013		15
67	**26.31**	1	910	1.5	1.51	1372			1310		16
60	**29.40**	1	1017	1.4	1.44	1460			1012		17
48.7	**35.91**	0.75	931	1.5	1.10	1372			1010		18
45.6	**38.37**	0.75	995	1.5	1.10	1460			912		19
37.3	**46.87**	0.75	1215	1.1	0.85	1372			910		20
34.5	**50.67**	0.5	876	1.4	0.69	1213			712		21
28.3	**61.89**	0.5	1070	1.3	0.64	1372			710		22

The dynamic efficiency is **0.96** for all ratios

Motor Flanges Available Flange Motore Disponibili

B) **Supplied with Reduction Bushing** Fornito con Bussola di Riduzione

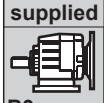
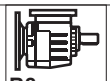
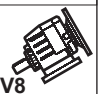
B) **Available on Request without reduction bushing** Disponibile a Richiesta senza Bussola di Riduzione

C) **Motor Flange Holes Position** Posizione Fori Flangia Motore

EN Unit **412A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.
For complete documentation please visit our web site.

I Il riduttore **412A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.
Per la documentazione completa consulta il nostro sito.

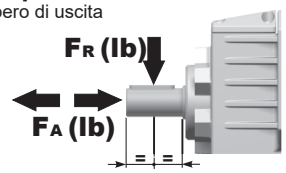
E El reductor tamaño **412A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.
Para documentación completa, consultar nuestra Web.

Standard supplied	**For these mounting position specify in the order or add oil** Per queste posizioni specificare in fase d'ordine o aggiungere olio					
 **B3**	 **B6**	 **B7**	 **B8**	 **V5**	 **V6**	 **V8**
8.80 oz	12.32 oz	14.08 oz	15.85 oz	14.08 oz	17.61 oz	Ask
SHELL Omala S4 WE 320			**ENI** Telium VSF 320			

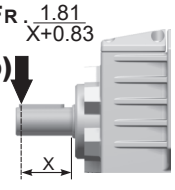
For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita

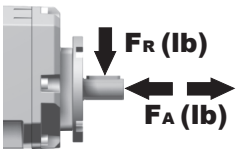


$$Feq = FR \cdot \frac{1.81}{X+0.83}$$



n_2	FA	FR	n_2	FA	FR	n_2	FA	FR
300	69.6	348.2	**140**	91.2	456.1	**70**	121.3	606.6
250	74.1	370.7	**120**	100.6	503.3	**40**	134.8	674.0
200	80.9	404.4	**85**	107.8	539.2	**15**	134.8	674.0

Input shaft
Albero in entrata

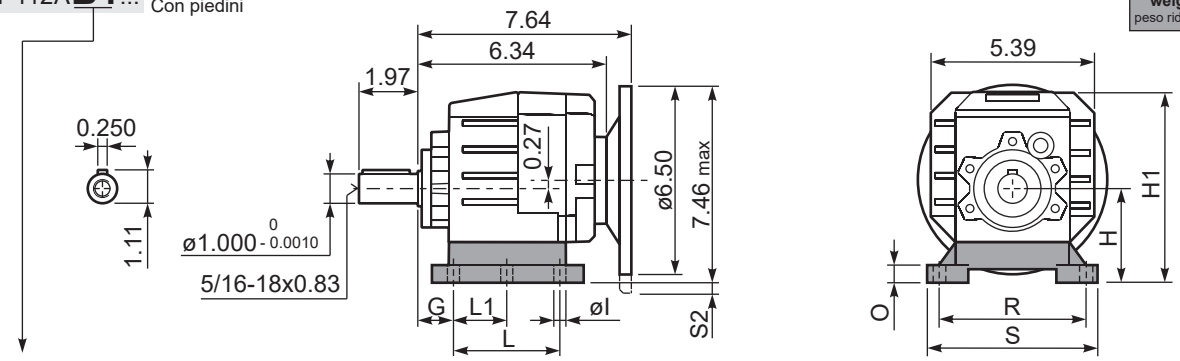


n_1	FA	FR
1750	53.9	269.8
1140	62.9	314.7

tab. 2

P412A**B1**... With feet
Con piedini

Gearbox weight peso riduttore	With flange	13.11lb
	With feet	14.10lb



Feet / piedini

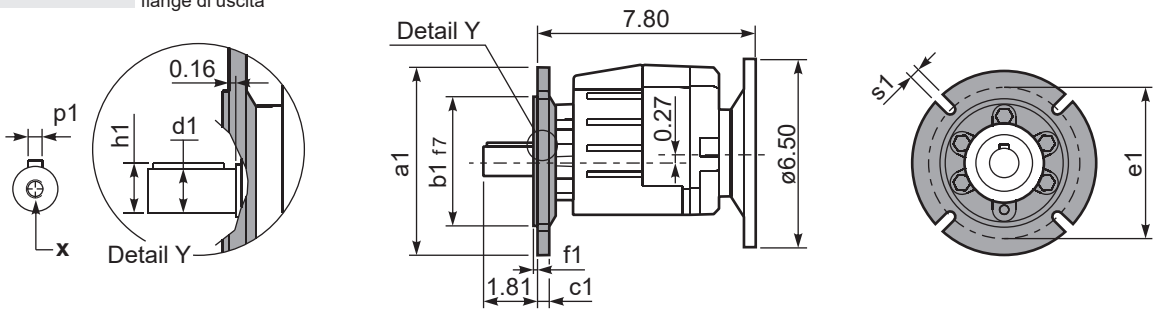
Feet Code	Market reference	G	H	R	L	L1	S	H1	O	øl	S2 only with motor flange	kit code
B1	112	0.71	3.35	4.33	3.43	1.97	5.12	6.59	0.59	-	-	KC35.9.021
B2	212/3	0.71	3.94	5.12	4.23	2.36	6.10	7.18	0.67	0.43	-	KC40.9.025
S1	17	0.71	2.95	4.33	4.33	1.97	5.71	6.12	0.59	0.35	0.03	KC40.9.022
S2	27	0.98	3.54	4.33	5.12	-	5.71	6.79	0.79	0.35	-	KC40.9.024

Other feet are available, see **www.hydromec.com**

Sono disponibili altri piedini in **www.hydromec.com**

Most popular types
Tipi più diffusi

P412A**-F**... Output flanges
flange di uscita

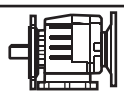


***Available output shaft** / Albero di uscita

	Shaft - d1	p1	h1	x
Standard	ø1.000x1.97	0.250	1.11	5/16-18x0.83
On request A richiesta	ø0.750x1.57	0.188	0.83	1/4-20x0.71

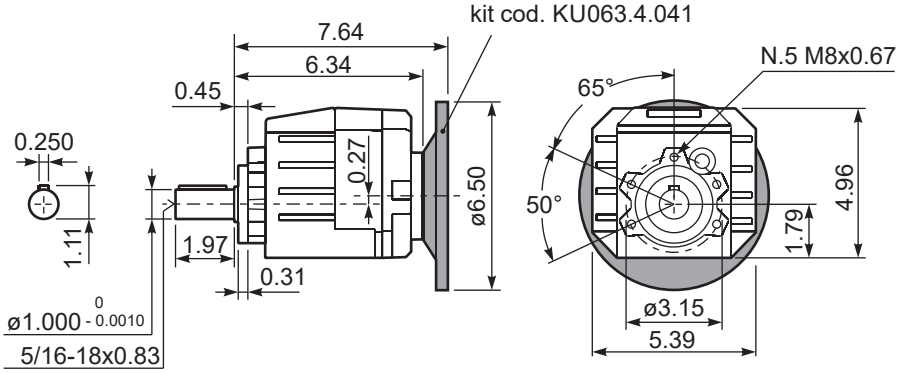
Available output flanges / flange di uscita

a1 ø	b1	c1	e1	f1	s1	kit code	Type
6.50	4.500 -0.0017 -0.0033	0.39	5.87	0.13	3/8-16	KU511.9.012	Nema
5.51	3.740 -0.0014 -0.0028	0.39	4.53	0.12	0.35	KC40.9.011	Metric
6.30	4.331 -0.0014 -0.0028	0.39	5.12	0.14	0.35	KC40.9.012	
7.87	5.118 -0.0014 -0.0028	0.39	6.50	0.14	0.43	KC40.9.013	
9.84	7.087 -0.0017 -0.0033	0.45	8.46	0.14	0.55	KC40.9.014	

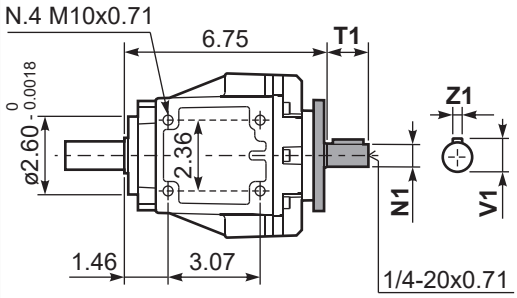


With flange and feet only on request. Ask for compatibility

P412A**-N**... Basic gearbox
Riduttore base



R412A**-N**... Input Shaft
Albero in entrata



Nema flanges	N1	T1	V1	Z1	kit code
Standard	0.750	1.97	0.83	0.188	KC40.5.070U
On request	0.625	1.57	0.71	0.188	KC40.5.069U

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1750 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f.s.	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges -W 56C	Available NEMA motor flanges - -		Output Shaft ø	Ratios code
45.6	**38.40**	0.75	975	1.5	**1.12**	**1460**			171713		02
40.1	**43.69**	0.75	1109	1.3	**0.99**	**1460**			191712		03
34.6	**50.64**	0.75	1286	1.1	**0.85**	**1460**			171712		04
32.8	**53.36**	0.50	903	1.6	**0.78**	**1416**			191710		05
28.6	**61.21**	0.50	1036	1.5	**0.73**	**1505**			191312		06
28.3	**61.85**	0.50	1047	1.4	**0.68**	**1416**			171710		07
24.7	**70.95**	0.50	1201	1.3	**0.63**	**1505**			131712	**standard**	08
23.8	**73.43**	0.50	1243	1.2	**0.62**	**1549**			101713	**ø1.00**	09
23.4	**74.77**	0.50	1266	1.1	**0.56**	**1416**			191310		10
20.2	**86.66**	0.33	968	1.5	**0.48**	**1416**			131710	On request	11
18.1	**96.85**	0.33	1082	1.4	**0.46**	**1505**			101712	ø0.750	12
17.0	**102.89**	0.33	1150	1.3	**0.44**	**1549**			101313		13
13.8	**126.40**	0.33	1412	1.1	**0.35**	**1505**			91712		17
12.9	**135.69**	0.25	1149	1.3	**0.33**	**1505**			101312		15
10.6	**165.74**	0.25	1403	1.0	**0.25**	**1416**			101310		16
9.9	**177.09**	0.25	1499	1.0	**0.25**	**1505**			91312		18
8.1	**216.31**	0.25	1831	0.8	**0.19**	**1416**			91310		19

The dynamic efficiency is **0.94** for all ratios

Motor Flanges Available Flange Motore Disponibili

B) **Supplied with Reduction Bushing** Fornito con Bussola di Riduzione

B) **Available on Request without reduction bushing** Disponibile a Richiesta senza Bussola di Riduzione

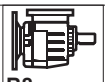
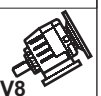
C) **Motor Flange Holes Position** Posizione Fori Flangia Motore

5

EN Unit **413A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.
For complete documentation please visit our web site.

I Il riduttore **413A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.
Per la documentazione completa consulta il nostro sito.

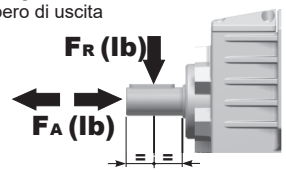
E El reductor tamaño **413A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.
Para documentación completa, consultar nuestra Web.

Standard supplied	**For these mounting position specify in the order or add oil** Per queste posizioni specificare in fase d'ordine o aggiungere olio					
 **B3**	 **B6**	 **B7**	 **B8**	 **V5**	 **V6**	 **V8**
10.56 oz	12.32 oz	15.85 oz	15.85 oz	15.85 oz	19.37 oz	Ask
SHELL Omala S4 WE 320			**ENI** Telium VSF 320			

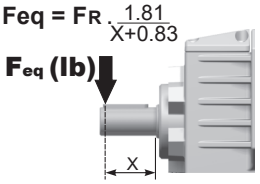
For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



$$Feq = FR \cdot \frac{1.81}{X+0.83}$$

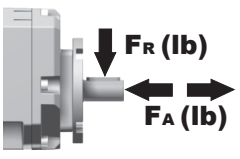


n_2	FA	FR
300	69.6	348.2
250	74.1	370.7
200	80.9	404.4

n_2	FA	FR
140	91.2	456.1
120	100.6	503.3
85	107.8	539.2

n_2	FA	FR
70	121.3	606.6
40	134.8	674.0
15	134.8	674.0

Input shaft
Albero in entrata

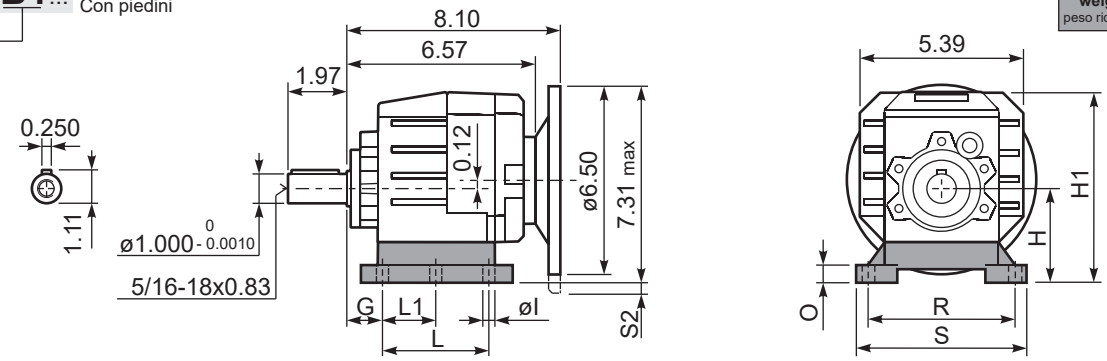


n_1	FA	FR
1750	31.5	157.4
1140	36.0	179.8

tab. 2

P413A**B1**... With feet / Con piedini

Gearbox weight / peso riduttore	With flange **14.65lb**
	With feet **15.42lb**



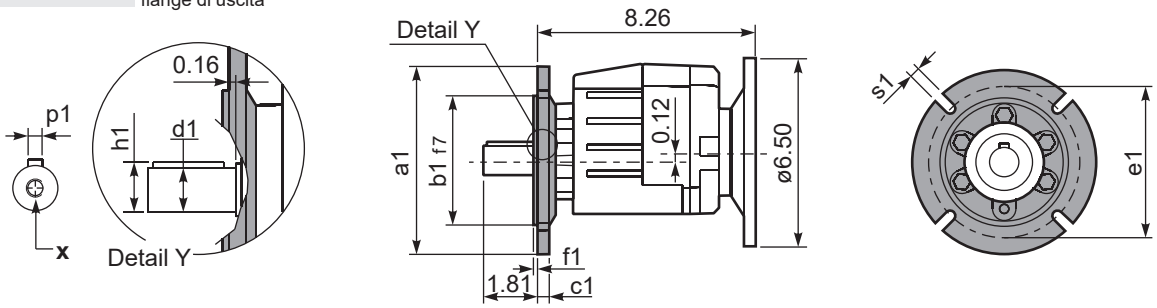
Feet Code	Market reference	G	H	R	L	L1	S	H1	O	øI	S2 only with motor flange	kit code
B1	112	0.71	3.35	4.33	3.43	1.97	5.12	6.59	0.59	-	-	KC35.9.021
B2	212/3	0.71	3.94	5.12	4.23	2.36	6.10	7.19	0.67	0.43	-	KC40.9.025
S1	17	0.71	2.95	4.33	4.33	1.97	5.71	6.12	0.59	0.35	0.03	KC40.9.022
S2	27	0.98	3.54	4.33	5.12	-	5.71	6.79	0.79	0.35	-	KC40.9.024

Other feet are available, see **www.hydromec.com**

Sono disponibili altri piedini in **www.hydromec.com**

Most popular types
Tipi più diffusi

P413A**-F**... Output flanges / flange di uscita



***Available output shaft** / Albero di uscita

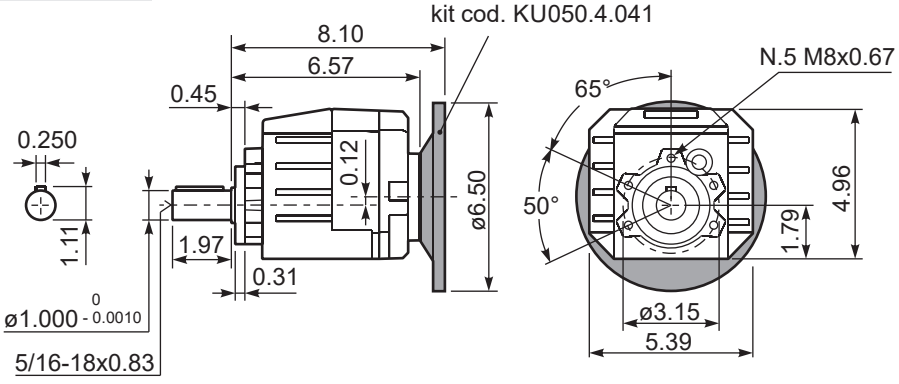
	Shaft - d1	p1	h1	x
Standard	ø1.000x1.97	0.250	1.11	5/16-18x0.83
On request / A richiesta	ø0.750x1.57	0.188	0.83	1/4-20x0.71

Available output flanges / flange di uscita

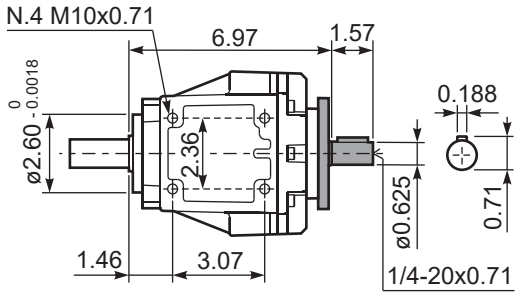
a1 ø	b1	c1	e1	f1	s1	kit code	Type
6.50	4.50 -0.0017 -0.0033	0.39	5.87	0.13	3/8-16	KU511.9.012	Nema
5.51	3.74 -0.0014 -0.0028	0.39	4.53	0.12	0.35	KC40.9.011	Metric
6.30	4.33 -0.0014 -0.0028	0.39	5.12	0.14	0.35	KC40.9.012	
7.87	5.12 -0.0014 -0.0028	0.39	6.50	0.14	0.43	KC40.9.013	
9.84	7.09 -0.0017 -0.0033	0.45	8.46	0.14	0.55	KC40.9.014	

With flange and feet only on request. Ask for compatibility

P413A**-N**... Basic gearbox / Riduttore base



R413A-**N**... Input Shaft / Albero in entrata



▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1750 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f.s.	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges -W 56C	-X 143/5TC	-Y 182/4TC		Output Shaft ø	Ratios code
485	**3.61**	5	624	2.1	**10.31**	**1288**				3018		01
414	**4.23**	5	730	2.0	**9.99**	**1459**				3016		02
349	**5.01**	5	867	2.0	**9.90**	**1717**				3014		03
288	**6.07**	5	1049	2.0	**10.23**	**2146**				3012		04
257	**6.81**	5	1177	2.0	**10.11**	**2378**				2018		05
220	**7.96**	5	1377	1.9	**9.35**	**2576**				2016		06
185	**9.45**	5	1634	1.6	**7.99**	**2610**				2014		07
153	**11.43**	5	1977	1.3	**6.52**	**2576**				2012		08
123	**14.21**	3	1474	1.5	**4.63**	**2275**				2010	**standard**	09
105	**16.62**	3	1724	1.5	**4.54**	**2610**				1314	**ø1.250**	10
87	**20.10**	3	2085	1.2	**3.71**	**2576**				1312		11
70	**24.98**	2	1728	1.3	**2.63**	**2275**				1310		12
60	**29.41**	2	2034	1.3	**2.57**	**2610**				814		13
49.2	**35.58**	2	2461	1.0	**2.09**	**2576**				812		14
43.2	**40.50**	1.5	2101	1.2	**1.78**	**2490**				614		15
39.6	**44.23**	1.5	2294	1.0	**1.49**	**2275**				810		16
35.7	**49.00**	1	1694	1.5	**1.52**	**2576**				612		17
28.7	**60.90**	1	2106	1.1	**1.08**	**2275**				610		18

The dynamic efficiency is **0.96** for all ratios

Motor Flanges Available Flange Motore Disponibili

B) **Supplied with Reduction Bushing** Fornito con Bussola di Riduzione

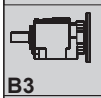
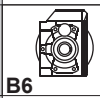
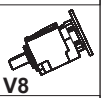
B) **Available on Request without reduction bushing** Disponibile a Richiesta senza Bussola di Riduzione

C) **Motor Flange Holes Position** Posizione Fori Flangia Motore

EN Unit **452A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.
For complete documentation please visit our web site.

I Il riduttore **452A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.
Per la documentazione completa consulta il nostro sito.

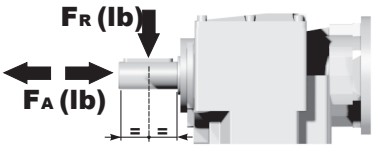
E El reductor tamaño **452A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.
Para documentación completa, consultar nuestra Web.

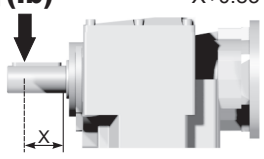
Standard supplied	**For these mounting position specify in the order or add oil** Per queste posizioni specificare in fase d'ordine o aggiungere olio						
 **B3**	 **B6**	 **B7**	 **B8**	 **V5**	 **V6**	 **V8**	
10.91 oz	10.91 oz	10.91 oz	10.91 oz	10.91 oz	10.91 oz	Ask	
SHELL Omala S4 WE 320				**AGIP** Telium VSF 320			

For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS

Output shaft / Albero di uscita





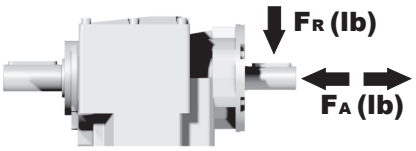
$Feq = FR \cdot \frac{2.01}{X+0.83}$

n_2	FA	FR
300	93.2	465.1
250	96.6	485.3
200	105.6	525.7

n_2	FA	FR
140	121.3	606.7
120	125.8	626.8
85	141.5	707.7

n_2	FA	FR
70	157.3	788.6
40	181.9	909.9
15	202.2	1011

Input shaft / Albero in entrata

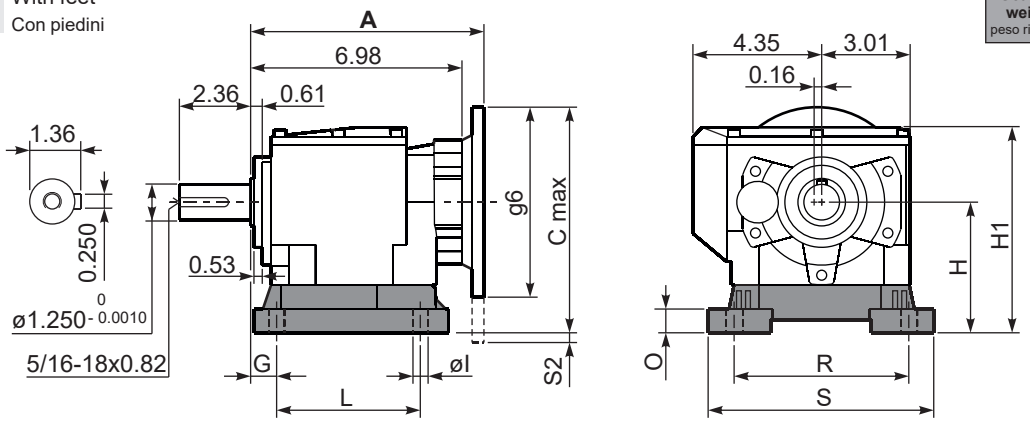


n_1	FA	FR
1750	89.9	449.6
1140	98.9	494.6

tab. 2

P452A**B1**... With feet
Con piedini

Gearbox weight / peso riduttore: With flange **19.16lb** / With feet **19.71lb**



Feet / piedini

Feet Code	Market reference	G	H	R	L	S	H1	O	øl	S2 only with motor flange
B3	312/3	0.71	4.33	6.30	5.12	7.48	6.81	0.79	0.43	0.11 182/4TC
B4	30/35	0.79	5.12	7.09	5.89	8.50	7.60	0.71	0.55	-
S4	47-57	1.18	4.53	5.31	6.50	6.69	7.01	0.94	0.53	-
H3	023-233	1.18	5.12	5.31	5.31	7.28	7.60	0.98	0.55	-
M2	52/3	1.18	4.33	5.31÷5.91	3.94	7.48	6.81	0.71	0.43	-

Other feet are available, see **www.hydromec.com**

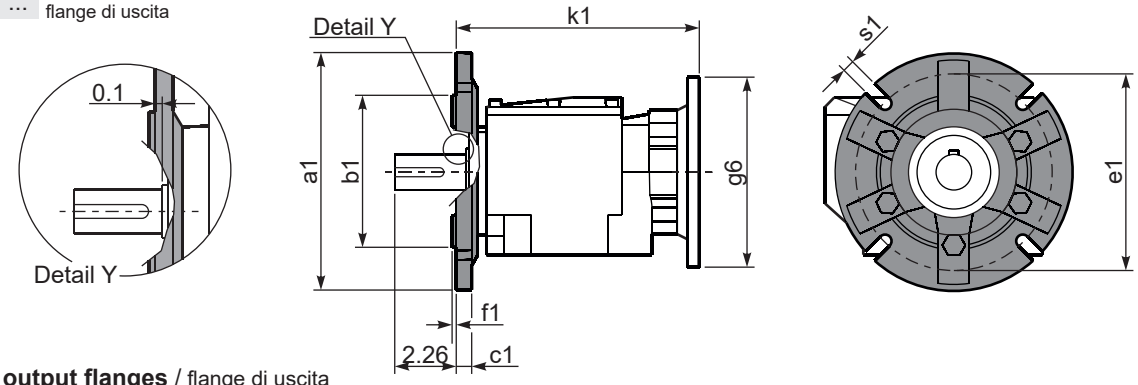
Sono disponibili altri piedini in **www.hydromec.com**

Dimension (A) see on page bottom

Most popular types
Tipi più diffusi

5

P452A-**F**... Output flanges
flange di uscita



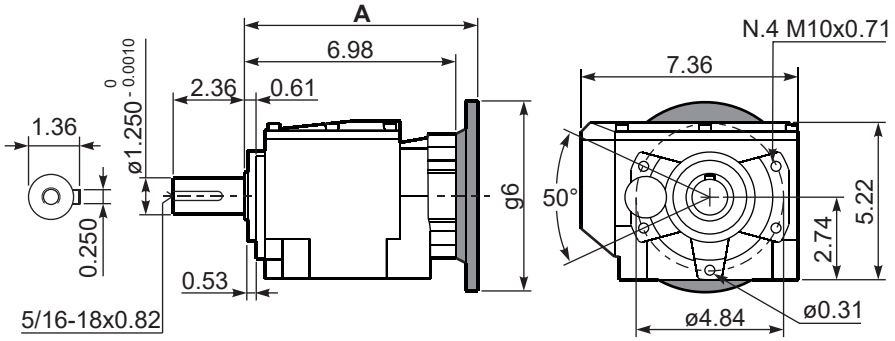
Available output flanges / flange di uscita

a1 ø	b1	c1	e1	f1	s1	kit code	Type
7.87	5.12 -0.0017 -0.0033	0.43	6.50	0.18	0.43	KC50.9.012	Metric
9.87	9.84 -0.0017 -0.0033	0.61	8.46	0.16	0.55	KC50.9.013	

With flange and feet only on request. Ask for compatibility

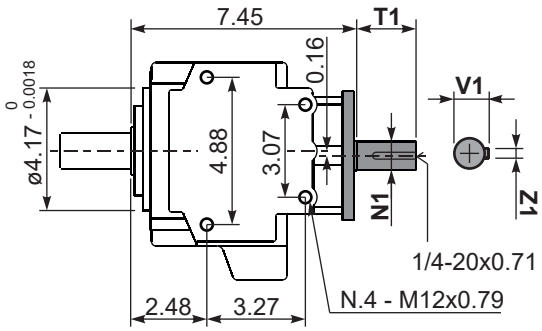
Nema flanges	k1	g6	kit code
56C-143/5TC	8.06	6.50	KU085.4.041
182/4TC	8.76	8.88	KU085.4.042

P452A-**N**... Basic gearbox
Riduttore base



Nema flanges	A	g6	kit code
56C-143/5TC	7.96	6.50	KU085.4.041
182/4TC	8.67	8.88	KU085.4.042

R452A-**N**... Input Shaft
Albero in entrata



Nema flanges	N1	T1	V1	Z1	kit code
Standard	0.875	1.97	0.96	0.188	KC50.5.070U
On request	0.750	1.97	0.83	0.188	KC50.5.069U

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1750 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f.s.	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges -W 56C	-X 143/5TC	-Y 182/4TC		Output Shaft ø	Ratios code
485	**3.61**	5	624	2.1	**10.66**	**1331**				3018		01
414	**4.23**	5	730	2.1	**10.58**	**1545**				3016		02
349	**5.01**	5	867	2.1	**10.40**	**1803**				3014		03
288	**6.07**	5	1049	2.1	**10.44**	**2189**				3012		04
257	**6.81**	5	1177	2.2	**10.95**	**2576**				2018		05
220	**7.96**	5	1377	2.1	**10.45**	**2876**				2016		07
185	**9.45**	5	1634	1.9	**9.46**	**3091**				2014		08
153	**11.43**	5	1977	1.4	**7.17**	**2833**				2012		09
125	**14.00**	5	2420	1.3	**6.38**	**3091**				1316	**standard ø1.250**	21
105	**16.62**	5	2873	1.1	**5.38**	**3091**				1314		11
87	**20.10**	3	2085	1.4	**4.08**	**2833**				1312		12
71	**24.61**	3	2552	1.1	**3.33**	**2833**				1112		20
60	**29.41**	3	3051	1.0	**3.04**	**3091**				814		14
49.2	**35.58**	2	2461	1.2	**2.30**	**2833**				812		15
43.2	**40.50**	1.5	2101	1.3	**1.96**	**2747**				614		16
39.6	**44.23**	1.5	2294	1.0	**1.43**	**2189**				810		17
35.7	**49.00**	1.5	2541	1.1	**1.67**	**2833**				612		18
28.7	**60.90**	1	2106	1.0	**1.04**	**2189**				610		19

The dynamic efficiency is **0.96** for all ratios

Motor Flanges Available Flange Motore Disponibili

B) **Supplied with Reduction Bushing** Fornito con Bussola di Riduzione

B) **Available on Request without reduction bushing** Disponibile a Richiesta senza Bussola di Riduzione

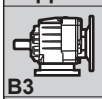
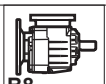
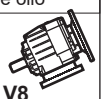
C) **Motor Flange Holes Position** Posizione Fori Flangia Motore

5

EN Unit **512A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.
For complete documentation please visit our web site.

I Il riduttore **512A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.
Per la documentazione completa consulta il nostro sito.

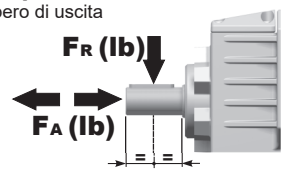
E El reductor tamaño **512A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.
Para documentación completa, consultar nuestra Web.

Standard supplied	**For these mounting position specify in the order or add oil** Per queste posizioni specificare in fase d'ordine o aggiungere olio					
 **B3**	 **B6**	 **B7**	 **B8**	 **V5**	 **V6**	 **V8**
24.65 oz	28.17 oz	40.49 oz	42.25 oz	40.49 oz	44.01 oz	Ask
SHELL Omala S4 WE 320				**ENI** Telium VSF 320		

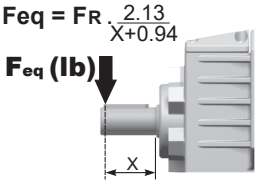
For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita

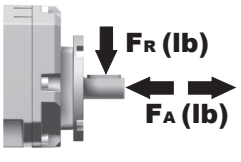


$Feq = FR \cdot \frac{2.13}{X+0.94}$



n_2	FA	FR	n_2	FA	FR	n_2	FA	FR
300	103.3	516.7	**140**	134.8	674.0	**70**	175.2	876.2
250	107.8	539.2	**120**	139.3	696.5	**40**	202.2	1011
200	116.8	584.1	**85**	157.3	786.3	**15**	224.7	1123.3

Input shaft
Albero in entrata

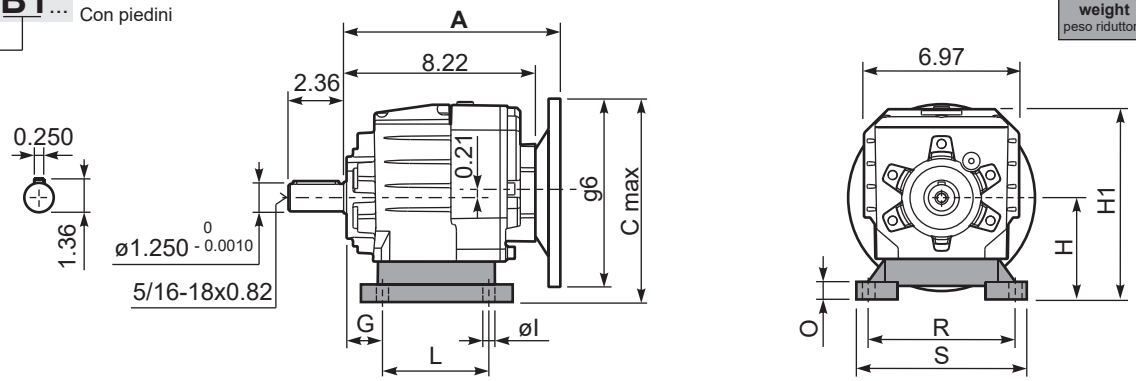


n_1	FA	FR
1750	101.2	505.8
1140	112.4	562

tab. 2

P512A**B1**... With feet
Con piedini

Gearbox weight peso riduttore	With flange **25.55lb**
	With feet **25.99lb**



Feet / piedini

Feet Code	Market reference	G	H	R	L	S	H1	O	øl	kit code
B3	312/3	0.71	4.33	6.30	5.12	7.48	8.31	0.79	0.43	KC50.9.024
B4	30/35	0.79	5.12	7.09	5.89	8.50	9.09	0.71	0.55	KC60.9.024
S4	47-57	1.18	4.53	5.31	6.50	6.69	8.50	0.98	0.53	KC50.9.022

Other feet are available, see **www.hydromec.com**

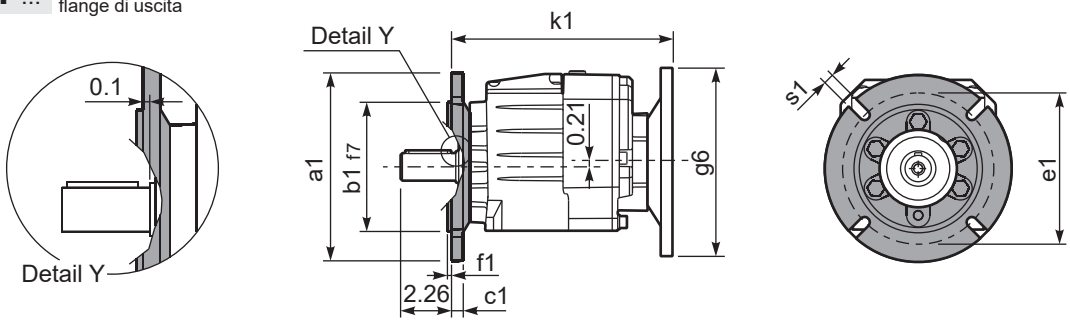
Sono disponibili altri piedini in **www.hydromec.com**

Dimension (A) see on page bottom

Most popular types
Tipi più diffusi

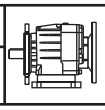
Nema flanges	C max	g6	kit code
56C-143/5TC	8.58	6.50	KU085.4.041
182/4TC	9.77	8.88	KU085.4.042

P512A-**F**... Output flanges
flange di uscita



Available output flanges / flange di uscita

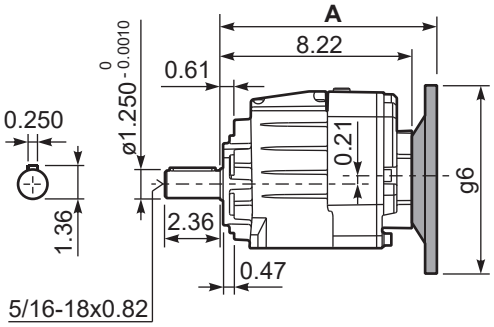
a1 ø	b1	c1	e1	f1	s1	kit code	Type
7.87	5.118 -0.0017 -0.0033	0.51	6.50	0.14	0.43	KC50.9.012	Metric
9.84	7.087 -0.0017 -0.0033	0.61	8.46	0.16	0.55	KC50.9.013	

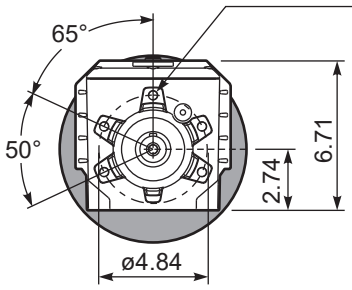


With flange and feet only on request. Ask for compatibility

Nema flanges	k1	g6	kit code
56C-143/5TC	9.31	6.50	KU085.4.041
182/4TC	10.01	8.88	KU085.4.042

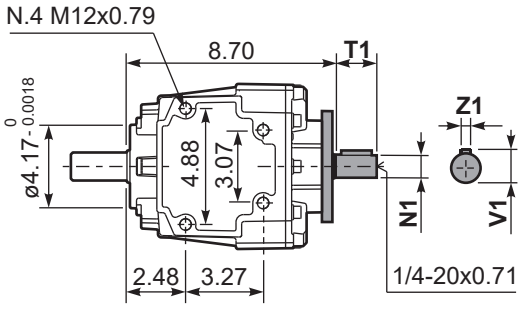
P512A-**N**... Basic gearbox
Riduttore base





Nema flanges	A	g6	kit code
56C-143/5TC	9.21	6.50	KU085.4.041
182/4TC	9.91	8.88	KU085.4.042

R512A-**N**... Input Shaft
Albero in entrata



Nema flanges	N1	T1	V1	Z1	kit code
Standard	0.875	1.97	0.96	0.188	KC50.5.070U
On request	0.750	1.97	0.83	0.188	KC50.5.069U

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1750 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f.s.	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges -W 56C	Available NEMA motor flanges -X 143/5 TC		Output Shaft ø	Ratios code
44.0	**39.79**	1.5	2021	1.5	**2.29**	**3091**			191316		01
37.1	**47.22**	1.5	2398	1.3	**1.93**	**3091**			191314		02
32.0	**54.73**	1.5	2780	1.1	**1.67**	**3091**			171314		03
26.4	**66.22**	1	2242	1.3	**1.26**	**2833**			171312		04
22.8	**76.69**	1	2596	1.2	**1.19**	**3091**			131314		05
20.9	**83.59**	1	2830	1.1	**1.09**	**3091**			190814		06
18.9	**92.78**	0.75	2356	1.2	**0.90**	**2833**			131312		07
16.7	**104.68**	0.75	2658	1.2	**0.87**	**3091**			101314		08
14.9	**117.22**	0.75	2976	1.0	**0.71**	**2833**			170812	**standard ø1.250**	09
13.8	**126.65**	0.5	2144	1.3	**0.66**	**2833**			101312		10
12.8	**136.62**	0.5	2313	1.3	**0.67**	**3091**			91314		11
10.6	**165.29**	0.5	2798	1.0	**0.51**	**2833**			91312		12
9.7	**180.40**	0.5	3054	1.0	**0.51**	**3091**			71314		13
8.0	**218.26**	0.33	2438	1.2	**0.38**	**2833**			71312		14
7.2	**241.82**	0.33	2702	1.1	**0.38**	**3091**			90814		15
6.0	**292.57**	0.25	2476	1.1	**0.29**	**2833**			90812		16
5.5	**319.32**	0.25	2703	1.1	**0.29**	**3091**			70814		17
4.5	**386.33**	0.25	3270	0.9	**0.22**	**2833**			70812		18
3.6	**480.16**	0.25	4064	0.5	**0.13**	**2189**			70810		19

The dynamic efficiency is **0.94** for all ratios

Motor Flanges Available Flange Motore Disponibili

B) **Supplied with Reduction Bushing** Fornito con Bussola di Riduzione

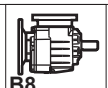
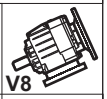
B) **Available on Request without reduction bushing** Disponibile a Richiesta senza Bussola di Riduzione

C) **Motor Flange Holes Position** Posizione Fori Flangia Motore

EN Unit **513A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.
For complete documentation please visit our web site.

I Il riduttore **513A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.
Per la documentazione completa consulta il nostro sito.

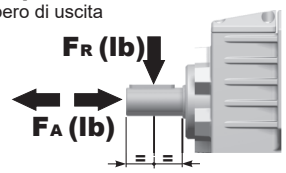
E El reductor tamaño **513A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.
Para documentación completa, consultar nuestra Web.

Standard supplied	**For these mounting position specify in the order or add oil** Per queste posizioni specificare in fase d'ordine o aggiungere olio					
 **B3**	 **B6**	 **B7**	 **B8**	 **V5**	 **V6**	 **V8**
35.21 oz	31.69 oz	44.01 oz	40.49 oz	51.06 oz	49.30 oz	Ask
SHELL Omala S4 WE 320				**ENI** Telium VSF 320		

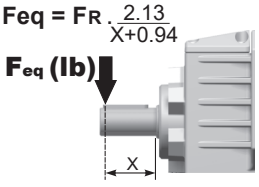
For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



$$Feq = FR \cdot \frac{2.13}{X+0.94}$$

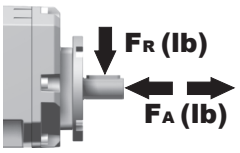


n_2	FA	FR
300	103.3	516.7
250	107.8	539.2
200	116.8	584.1

n_2	FA	FR
140	134.8	674.0
120	139.3	696.5
85	157.3	786.3

n_2	FA	FR
70	175.2	876.2
40	202.2	1011
15	224.7	1123.3

Input shaft
Albero in entrata

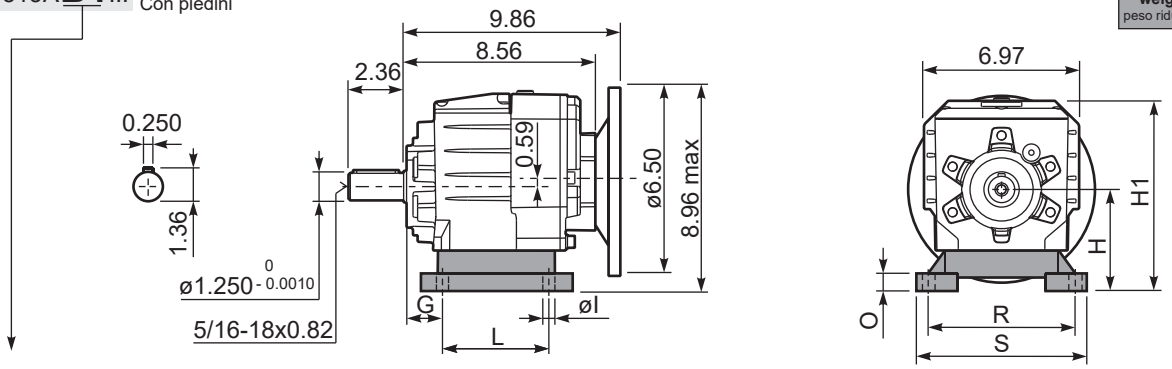


n_1	FA	FR
1750	89.9	449.3
1140	98.9	494.6

tab. 2

P513A**B1**... With feet
Con piedini

Gearbox weight peso riduttore	With flange **27.53lb** With feet **27.09lb**



Feet / piedini

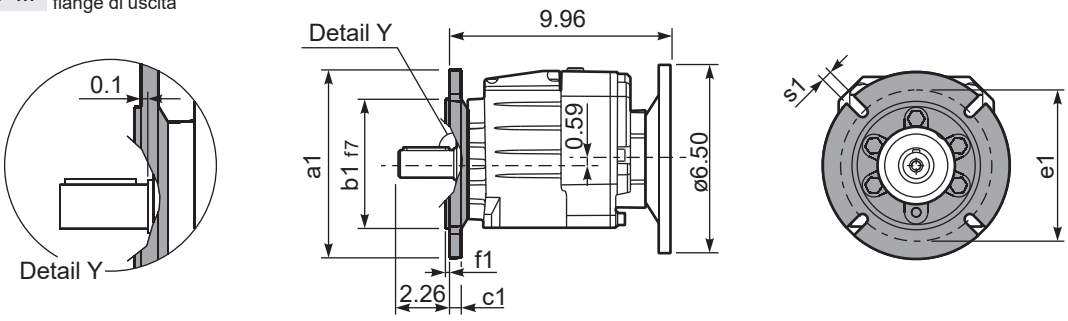
Feet Code	Market reference	G	H	R	L	S	H1	O	øl	kit code
B3	312/3	0.71	4.33	6.30	5.12	7.48	8.31	0.79	0.43	KC50.9.024
B4	30/35	0.79	5.12	7.09	5.89	8.50	9.09	0.71	0.55	KC60.9.024
S4	47-57	1.18	4.53	5.31	6.50	6.69	8.50	0.98	0.55	KC50.9.022

Other feet are available, see **www.hydromec.com**

Sono disponibili altri piedini in **www.hydromec.com**

Most popular types
Tipi più diffusi

P513A**-F**... Output flanges
flange di uscita

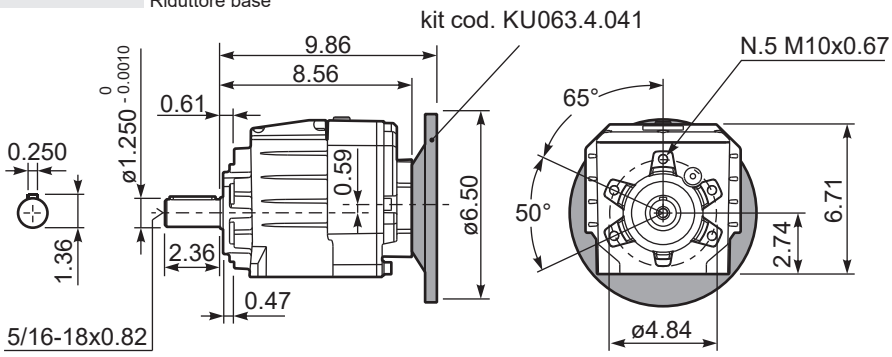


Available output flanges / flange di uscita

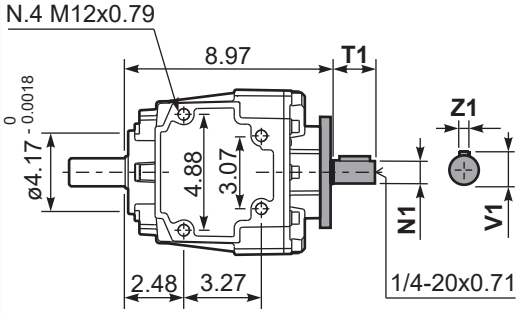
a1 ø	b1	c1	e1	f1	s1	kit code	Type
7.87	5.118 -0.0017 -0.0033	0.51	6.50	0.18	0.43	KC50.9.012	Metric
9.84	7.087 -0.0017 -0.0033	0.61	8.46	0.16	0.55	KC50.9.013	

With flange and feet only on request. Ask for compatibility

P513A**-N**... Basic gearbox
Riduttore base



R513A**-N**... Input Shaft
Albero in entrata



Nema flanges	N1	T1	V1	Z1	kit code
Standard	0.750	1.97	0.83	0.188	KC40.5.070U
On request	0.625	1.57	0.71	0.188	KC40.5.069U

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1750 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f.s.	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges -W 56C	-X 143/5TC	-Y 182/4TC		Output Shaft ø	Ratios code
485	**3.61**	5	624	2.6	13.06	1631				3018		01
414	**4.23**	5	730	2.7	13.52	1975				3016		02
349	**5.01**	5	867	2.6	12.87	2232				3014		03
288	**6.07**	5	1049	2.5	12.69	2661				3012		04
257	**6.81**	5	1177	2.6	12.77	3005				2018		05
220	**7.96**	5	1377	2.3	11.54	3177				2016		07
185	**9.45**	5	1634	2.2	10.77	3520				2014		08
153	**11.43**	5	1977	1.8	9.23	3649				2012	**standard ø1.375**	09
125	**14.00**	5	2420	1.5	7.71	3735				1316		10
105	**16.62**	5	2873	1.5	7.70	4421				1314	On request 1.250	11
87	**20.10**	5	3475	1.3	6.55	4550				1312		12
71	**24.61**	5	4254	1.1	5.35	4550				1112		20
60	**29.41**	3	3051	1.3	3.80	3863				814		14
49.2	**35.58**	3	3691	1.2	3.70	4550				812		15
43.2	**40.50**	2	2801	1.0	1.96	2747				614		16
39.6	**44.23**	2	3058	1.2	2.30	3520				810		17
35.7	**49.00**	2	3388	1.0	2.03	3434				612		18
28.7	**60.90**	1.5	3159	1.1	1.64	3520				610		19

The dynamic efficiency is **0.96** for all ratios

Motor Flanges Available Flange Motore Disponibili

B) **Supplied with Reduction Bushing** Fornito con Bussola di Riduzione

B) **Available on Request without reduction bushing** Disponibile a Richiesta senza Bussola di Riduzione

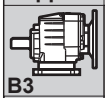
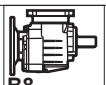
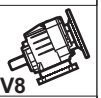
C) **Motor Flange Holes Position** Posizione Fori Flangia Motore

5

EN Unit **612A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.
For complete documentation please visit our web site.

I Il riduttore **612A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.
Per la documentazione completa consulta il nostro sito.

E El reductor tamaño **612A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.
Para documentación completa, consultar nuestra Web.

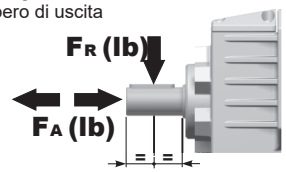
Standard supplied	**For these mounting position specify in the order or add oil** Per queste posizioni specificare in fase d'ordine o aggiungere olio					
 **B3**	 **B6**	 **B7**	 **B8**	 **V5**	 **V6**	 **V8**
28.17 oz	35.21 oz	42.25 oz	42.25 oz	45.77 oz	47.54 oz	Ask
SHELL Omala S4 WE 320			**ENI** Telium VSF 320			

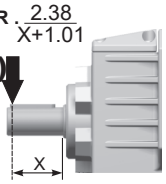
For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita

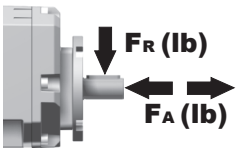
$$Feq = FR \cdot \frac{2.38}{X+1.01}$$





n_2	FA	FR	n_2	FA	FR	n_2	FA	FR
300	125.8	629.1	**140**	166.3	831.3	**70**	200.0	943.6
250	134.8	674.0	**120**	170.7	853.7	**40**	260.6	1303.1
200	143.8	718.9	**85**	188.7	898.7	**15**	292.1	1460.3

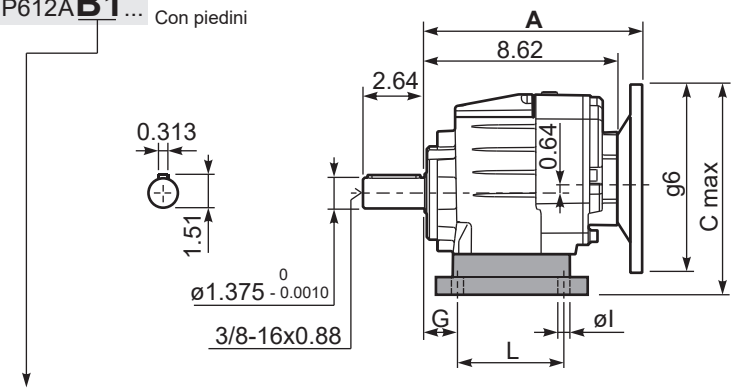
Input shaft
Albero in entrata

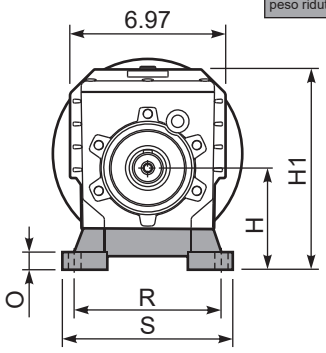


n_1	FA	FR
1750	101.2	505.8
1140	112.4	562

tab. 2

P612A**B1**... With feet / Con piedini





Gearbox weight / peso riduttore: With flange **31.50lb**, With feet **32.60lb**

Feet / piedini

Feet Code	Market reference	G	H	R	L	S	H1	O	øl	kit code
B4	412/3	0.79	5.12	7.09	5.89	8.50	9.53	0.71	0.55	KC60.9.024
S4	47-57	1.18	4.53	5.31	6.50	6.69	8.94	0.98	0.55	KC50.9.022
S7	77	1.38	5.51	6.69	8.07	8.03	9.92	0.31	0.55	KC60.9.029LM

Other feet are available, see **www.hydromec.com**

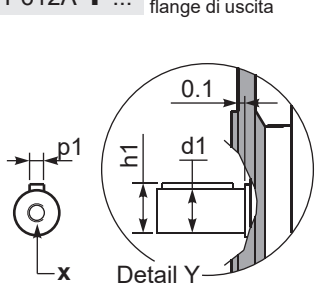
Sono disponibili altri piedini in **www.hydromec.com**

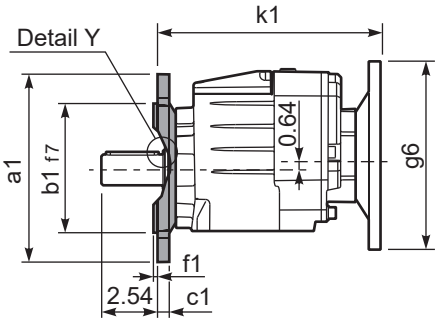
Dimension (A) see on page bottom

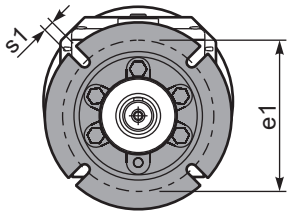
Most popular types
Tipi più diffusi

Nema flanges	C max	g6	kit code
56C-143/5TC	9.40	6.50	KU085.4.041
182/4TC	10.59	8.88	KU085.4.042

P612A**-F**... Output flanges / flange di uscita







***Available output shaft** / Albero di uscita

	Shaft - d1	p1	h1	x
Standard	ø1.375x2.64	0.313	1.51	3/8-16x0.88
On request / A richiesta	ø1.250x2.64	0.250	1.36	5/16-18x0.82

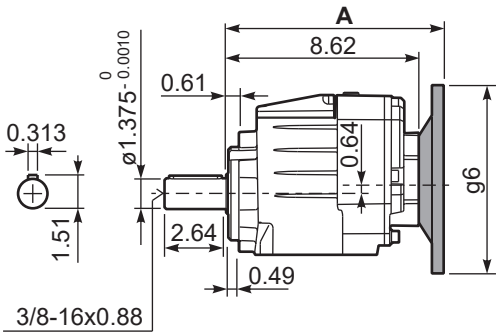
Available output flanges / flange di uscita

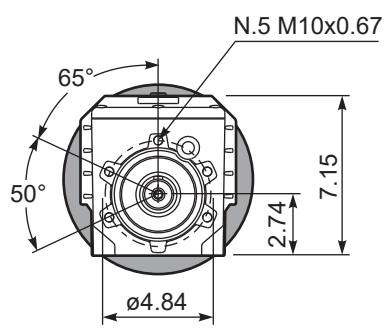
a1 ø	b1	c1	e1	f1	s1	kit code	Type
7.87	$5.118^{-0.0017}_{-0.0033}$	0.51	6.50	0.14	0.43	KC50.9.012	Metric
9.84	$7.087^{-0.0017}_{-0.0033}$	0.61	8.46	0.16	0.55	KC50.9.013	

With flange and feet only on request. Ask for compatibility

Nema flanges	k1	g6	kit code
56C-143/5TC	9.70	6.50	KU085.4.041
182/4TC	10.41	8.88	KU085.4.042

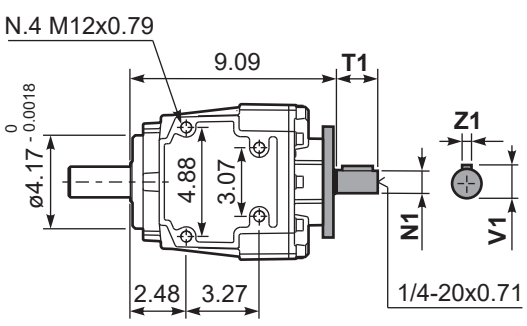
P612A**-N**... Basic gearbox / Riduttore base





Nema flanges	A	g6	kit code
56C-143/5TC	9.60	6.50	KU085.4.041
182/4TC	10.31	8.88	KU085.4.042

R612A**-N**... Input Shaft / Albero in entrata



Nema flanges	N1	T1	V1	Z1	kit code
Standard	0.875	1.97	0.96	0.188	KC50.5.070U
On request	0.750	1.97	0.83	0.188	KC50.5.069U

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1750 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f.s.	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges -W 56C	Available NEMA motor flanges -X 143/5 TC		Output Shaft ø	Ratios code
44.0	**39.79**	2	2694	1.4	2.77	3726			191316		05
37.1	**47.22**	2	3198	1.4	2.77	4421			191314		06
32.0	**54.73**	2	3706	1.2	2.39	4421			171314		07
30.6	**57.13**	2	3869	1.2	2.35	4550			191312		08
26.4	**66.22**	2	4484	1.0	2.03	4550			171312		09
24.6	**71.01**	1.5	3606	1.0	1.55	3735			191310		10
22.8	**76.69**	1.5	3894	1.1	1.70	4421			131314		11
21.3	**82.30**	1	2786	1.3	1.34	3735			171310		12
20.9	**83.59**	1	2830	1.3	1.33	3777			190814		13
18.9	**92.78**	1	3141	1.4	1.45	4550			131312		14
16.7	**104.68**	1	3544	1.2	1.25	4421			101314	**standard ø1.375**	15
14.9	**117.22**	1	3968	1.1	1.15	4550			170812		16
13.8	**126.65**	1	4288	1.1	1.06	4550			101312		17
12.9	**135.74**	0.75	3447	1.1	0.82	3777			130814	On request 1.250	18
12.0	**145.68**	0.75	3699	1.0	0.76	3735			170810		19
11.1	**157.40**	0.5	2665	1.4	0.70	3735			101310		20
10.6	**165.29**	0.5	2798	1.6	0.81	4507			91312		21
9.4	**185.29**	0.5	3137	1.2	0.60	3777			100814		22
8.5	**205.43**	0.5	3478	1.1	0.54	3735			91310		23
7.8	**224.18**	0.5	3795	1.2	0.60	4550			100812		24
7.2	**241.82**	0.33	2702	1.4	0.46	3777			90814		25
6.3	**278.62**	0.33	3113	1.2	0.40	3735			100810		26
6.0	**292.57**	0.33	3269	1.4	0.46	4550			90812		27
4.8	**363.63**	0.25	3078	1.2	0.30	3735			90810		28

The dynamic efficiency is **0.94** for all ratios

Motor Flanges Available Flange Motore Disponibili

B) **Supplied with Reduction Bushing** Fornito con Bussola di Riduzione

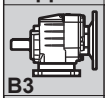
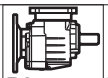
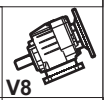
B) **Available on Request without reduction bushing** Disponibile a Richiesta senza Bussola di Riduzione

C) **Motor Flange Holes Position** Posizione Fori Flangia Motore

EN Unit **613A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.
For complete documentation please visit our web site.

I Il riduttore **613A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.
Per la documentazione completa consulta il nostro sito.

E El reductor tamaño **613A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.
Para documentación completa, consultar nuestra Web.

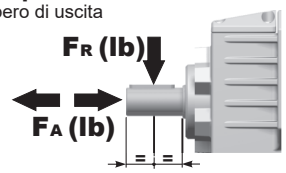
Standard supplied	**For these mounting position specify in the order or add oil** Per queste posizioni specificare in fase d'ordine o aggiungere olio					
 **B3**	 **B6**	 **B7**	 **B8**	 **V5**	 **V6**	 **V8**
36.97 oz	38.73 oz	44.01 oz	44.01 oz	47.54 oz	52.82 oz	Ask
SHELL Omala S4 WE 320			**ENI** Telium VSF 320			

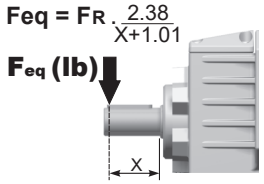
For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita

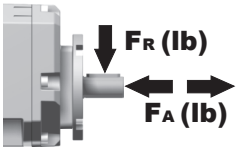
$Feq = FR \cdot \frac{2.38}{X+1.01}$





n_2	FA	FR	n_2	FA	FR	n_2	FA	FR
300	125.8	629.1	**140**	166.3	831.3	**70**	200.0	943.6
250	134.8	674.0	**120**	170.7	853.7	**40**	260.6	1303.1
200	143.8	718.9	**85**	188.7	898.7	**15**	292.1	1460.3

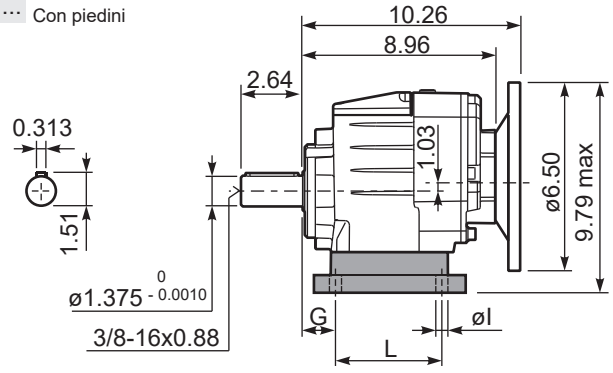
Input shaft
Albero in entrata

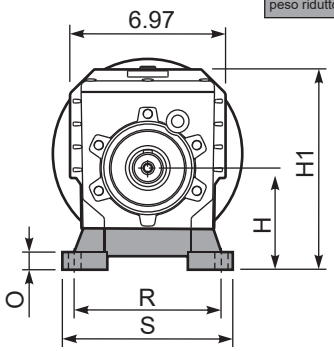


n_1	FA	FR
1750	89.9	449.3
1140	98.9	494.6

tab. 2

P613A**B1**... With feet
Con piedini





Gearbox weight / peso riduttore: With flange **31.94lb**, With feet **34.80lb**

Feet / piedini

Feet Code	Market reference	G	H	R	L	S	H1	O	øl	kit code
B4	412/3	0.79	5.12	7.09	5.89	8.50	9.53	0.71	0.55	KC60.9.024
S4	47-57	1.18	4.53	5.31	6.50	6.69	8.94	0.98	0.55	KC50.9.022
S7	77	1.38	5.51	6.69	8.07	8.03	9.92	0.31	0.55	KC60.9.029LM

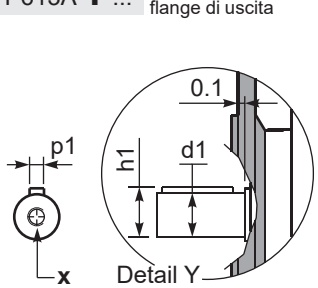
Other feet are available, see **www.hydromec.com**

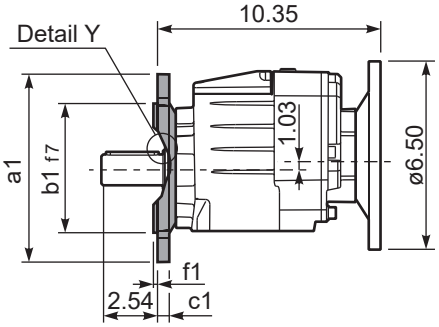
Sono disponibili altri piedini in **www.hydromec.com**

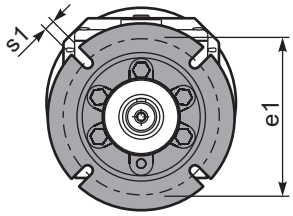
Dimension (A) see on page bottom

Most popular types
Tipi più diffusi

P613A**-F**... Output flanges
flange di uscita







***Available output shaft** / Albero di uscita

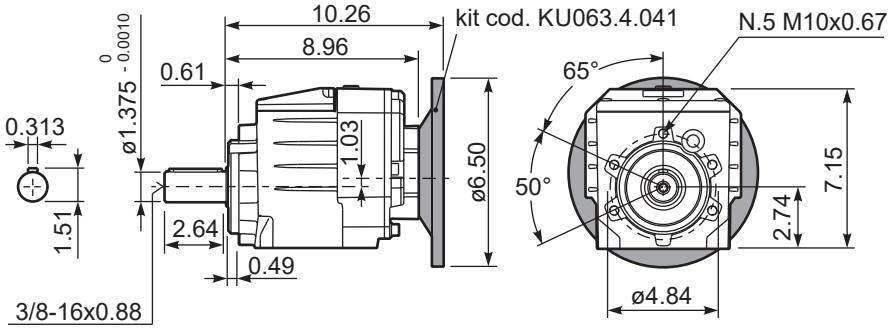
	Shaft - d1	p1	h1	x
Standard	ø1.375x2.64	0.313	1.51	3/8-16x0.88
On request A richiesta	ø1.250x2.64	0.250	1.36	5/16-18x0.82

Available output flanges / flange di uscita

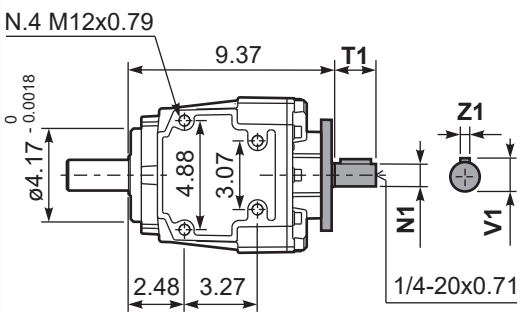
a1 ø	b1	c1	e1	f1	s1	kit code	Type
7.87	$5.118^{-0.0017}_{-0.0033}$	0.51	6.50	0.14	0.43	KC50.9.012	Metric
9.84	$7.087^{-0.0017}_{-0.0033}$	0.61	8.46	0.16	0.55	KC50.9.013	

With flange and feet only on request. Ask for compatibility

P613A**-N**... Basic gearbox
Riduttore base



R613A**-N**... Input Shaft
Albero in entrata



Nema flanges	N1	T1	V1	Z1	kit code
Standard	0.750	1.97	0.83	0.188	KC40.5.070U
On request	0.625	1.57	0.71	0.188	KC40.5.069U

HYDROMEC SPA IS THE LEGAL RESPONSABLE FOR WARRANTY ISSUES.

PLEASE READ CAREFULLY

The following WARNING and CAUTION information are supplied to you for the proper functioning of your product.
Read ALL instructions prior to operating reducer.
Injury to personnel or reducer failure may be caused by improper installation, maintenance or operation.

WARNING:

• Written authorization is required to operate or use reducers in man lift or people moving devices.

• Check to make sure that certain applications do not exceed the allowable load capacities published in the current catalog.
• Buyer shall be solely responsible for determining the adequacy of the product for any and all uses to which Buyer shall apply the product. The application by Buyer shall not be subject to any implied warranty of fitness for a particular purpose.
• For safety, Buyer or User should provide protective guards over all shaft extensions and any moving apparatus mounted thereon. The User is responsible for checking all applicable safety codes in his area and providing suitable guards. Failure to do so may result in bodily injury and/or damage to equipment.
• Gearboxes operating in high position should have a protective shield for any possible parts falling down for casual accidents where people are moving under them.
• Hot oil and reducers can cause severe burns. Use extreme care when removing lubrication plugs and vents.
• Make certain that the power supply is disconnected before attempting to service or remove any components. Lock out the power supply and tag it to prevent unexpected application power.
• Reducers are not to be considered fail safe or self-locking devices. If these features are required, a properly sized, independent holding device should be utilized.
Reducers should not be used as a brake.
• Any brakes that are used in conjunction with a reducer must be sized or positioned in such a way so as to not subject the reducer to loads beyond the catalog rating.
• Lifting supports including eyebolts are to be used for vertically lifting the gearbox only and not other associated attachments or motors.
• Use of an oil with an EP additive on units with backstops may prevent proper operation of the backstop. Injury to personnel, damage to the reducer or other equipment may result.
• Overhung loads subject shaft bearings and shafts to stress which may cause premature bearing failure and or shaft breakage from bending fatigue, it not sized properly.

SELLING CONDITIONS

Warranty for manufacturing defects will expire one-year after the invoicing date. Hydro-Mec s.p.a. will replace or repair defective parts but will not accept any further changes for direct or indirect damages of any kind. The warraty will become null and void if repairs or changes are carried out without our prior written authorization.
Our company will not be responsible for any direct or indirect damages, caused by a wrong use of the products or for not observing the catalogue/ web indication.
If the process requires total protections the customers should consider additional measures to avoid any contaminations arising from the gearboxes.
All rights reserved.
All information shown in this catalogue are purely indicative;
Hydro-Mec s.p.a reserves the right to make any necessary variation without prior notice.

HYDROMEC SPA È LEGALMENTE IL RESPONSABILE DEI PROBLEMI DI GARANZIA.

LEGGERE ATTENTAMENTE

Le seguenti raccomandazioni sono fondamentali per un buon funzionamento del vostro prodotto.
Leggere attentamente tutte le istruzioni prima di azionare il riduttore.
L'inappropriata installazione, manutenzione o funzionamento del riduttore può causare incidenti al personale addetto edanni al riduttore stesso.

ATTENZIONE:

• E' richiesta autorizzazione scritta per azionare riduttori in ascensori o dispositivi per il movimento delle persone.

• Controllare che alcune applicazioni non eccedano la massima capacità di carico ammessa pubblicata in questo catalogo.
• L'acquirente è l'unico responsabile per la determinazione dell'adeguatezza del prodotto per qualcuna o tutte le utilizzazioni che l'acquirente stesso farà del riduttore. L'applicazione dell'acquirente non potrà essere soggetta ad alcuna implicita garanzia di montaggio per uno scopo particolare.
• Per ragioni di sicurezza l'acquirente dovrà provvedere a porre protezioni adeguate su tutta la lunghezza dell'albero a tutti gli organi in movimento.
L'utilizzatore è responsabile del controllo di tutti i codici di sicurezza e la predisposizione di protezioni adeguate. In assenza di tali precauzioni si possono verificare incidenti alle persone e danni agli apparati.
• Su riduttori installati in posizioni elevate utilizzare protezioni adeguate per qualsiasi distacco accidentale di parti nel caso di passaggio di persone al di sotto.
• Olio e riduttori bollenti possono causare gravi ustioni. Usare estrema cautela nella rimozione dei tappi e delle ventole.
• Assicurarsi che la corrente di alimentazione sia scollegata prima di riparare o rimuovere alcun componente. Chiudere l'alimentazione e contrassegnare tale operazione per evitare accensioni accidentali.
• I riduttori non devono essere considerati esenti da guasti o a bloccaggio automatico. Se sono indispensabili queste caratteristiche, deve essere utilizzato un dispositivo indipendente della dimensione adatta. I riduttori non devono essere utilizzati come freni.
• Qualsiasi freno sia utilizzato insieme al riduttore deve essere della giusta grandezza e posizionato in modo da non causare carichi eccessivi non previsti dai dati forniti nel catalogo.
• I dispositivi di sollevamento come le golfare devono essere usati solo per sollevare verticalmente il riduttore e non altri dispositivi associati o motori.
• L'utilizzo di un olio con un additivo EP su gruppi provvisti di dispositivo di arresto possono inficiare l'uso corretto del freno e provocare danni alle persone, alle cose ed al riduttore stesso nonché ad altri apparecchi.
• I Carichi sospesi assoggettano i cuscinetti della vite e la vite stessa a sollecitazioni che possono causare, se non adeguatamente dimensionati, l'usura prematura dei cuscinetti e/o larottura della vite a causa della resistenza alla flessione.

CONDIZIONI DI VENDITA

La garanzia relativa a difetti di costruzione ha la durata di un anno dalla data di fatturazione della merce. Tale garanzia comporta per Hydro-Mec s.p.a. l'onere della sostituzione o riparazione delle parti difettose ma non ammette ulteriori addebiti per eventuali danni diretti o indiretti di qualsiasi natura. La garanzia decade nel caso in cui siano state eseguite riparazioni o apportate modifiche senza nostro consenso scritto.
La nostra ditta non si ritiene responsabile per eventuali danni diretti o indiretti derivanti da un uso improprio dei prodotti e dalla mancata osservanza delle indicazioni riportate a catalogo o web.
Se il processo richiede una protezione totale, i clienti dovrebbero prendere in considerazione misure aggiuntive per evitare qualsiasi contaminazione derivante dai riduttori.
Tutti i diritti sono riservati. **Tutte le informazioni riportate nel presente catalogo sono puramente indicative; Hydro-Mec s.p.a si riserva il diritto di apportare qualsiasi variazione necessaria senza preavviso.**

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HYDRO·MEC

HIGH EFFICENCY GEARBOXES

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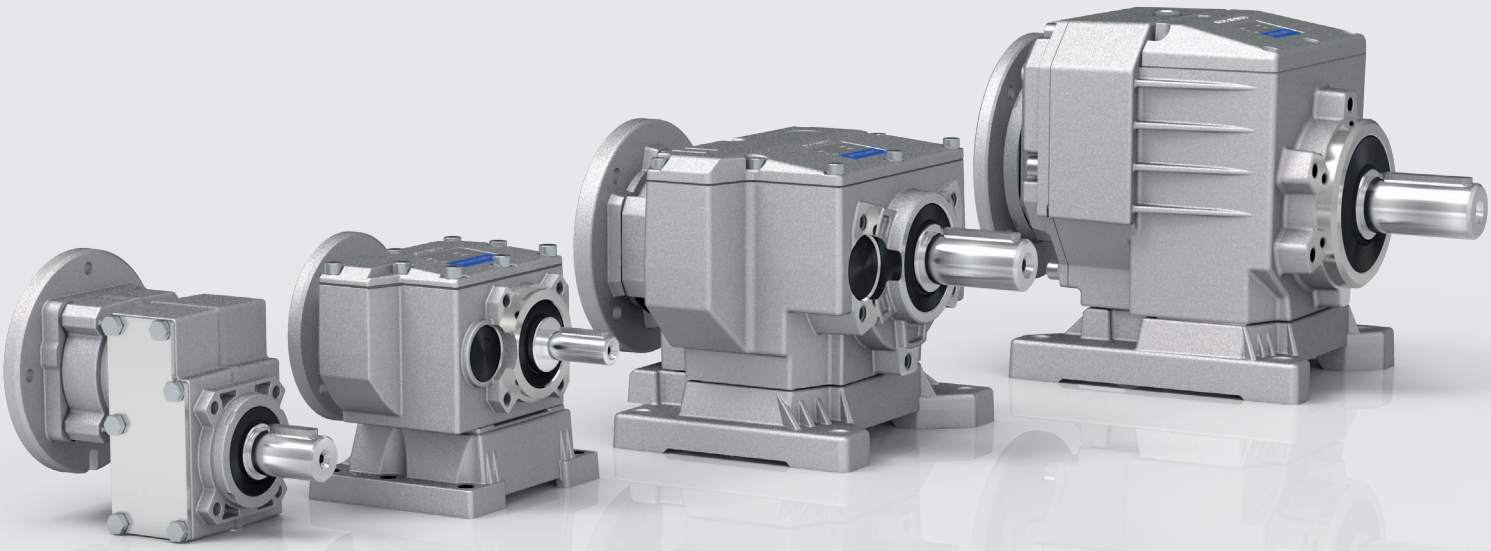

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