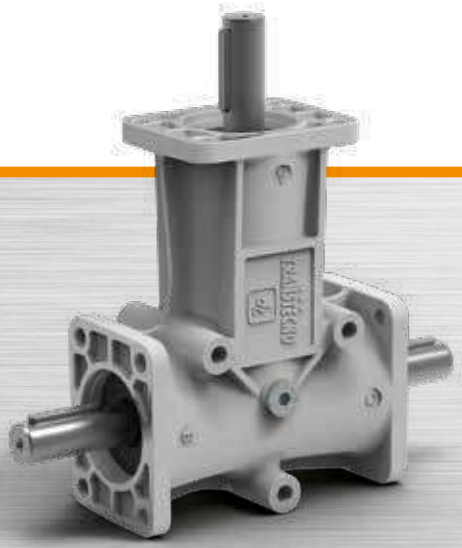
TRANSTECNO®
the modular gearmotor

DZ

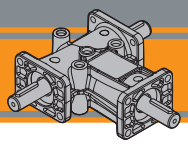
DZ

Right-angle bevel gearboxes

Rinvii angolari
Right-angle bevel gearboxes



brand of TRANSTECNO®



ENERGY SAVING

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Caratteristiche tecniche

I rinvii angolari serie DZ sono stati progettati per applicazioni industriali dove occorre trasmettere un moto rotatorio tra alberi disposti perpendicolarmente tra loro.

Sono disponibili:

- 5 grandezze: DZ1, DZ2, DZ3, DZ4 e DZ5
- 2 rapporti: 1/1 e 1/2;
- 2 o 1 prese moto uscita;
- 1 flangia ingresso e 2 flange uscita. Solo per le grandezze 1 e 2 è disponibile la versione con 1 sola flangia uscita

Caratteristiche comuni a tutta la serie sono:

- Carter monoblocco in lega di alluminio predisposta per il fissaggio in 3 punti o, in alternativa, alle 2 o 3 flange in corrispondenza delle prese moto
- Coppia Conica Spiroidale GLEASON in acciaio al Nichel Cromo con trattamento di Cementazione - Tempra
- Alberi maschio in acciaio al carbonio protetti superficialmente contro la corrosione con trattamento di fosfatazione. Le sedi linguetta (non presenti sulla taglia DZ1) possono assumere qualsiasi posizione angolare.
- Sulla taglia DZ3 è previsto un albero di uscita cavo con sede linguetta
- Cuscinetti radiali a sfere (DZ3 con albero cavo con cuscinetti conici in uscita)
- Anelli di Tenuta tipo A in NBR o Tappi in NBR ove l'albero non è sporgente
- Lubrificazione con olio sintetico ISO 150, ad esclusione delle grandezze 1 fornita con grasso minerale 00 EP permanente

Technical features

DZ-series right-angle bevel gearboxes are designed for industrial applications where rotary motion must be transmitted between perpendicularly arranged shafts.

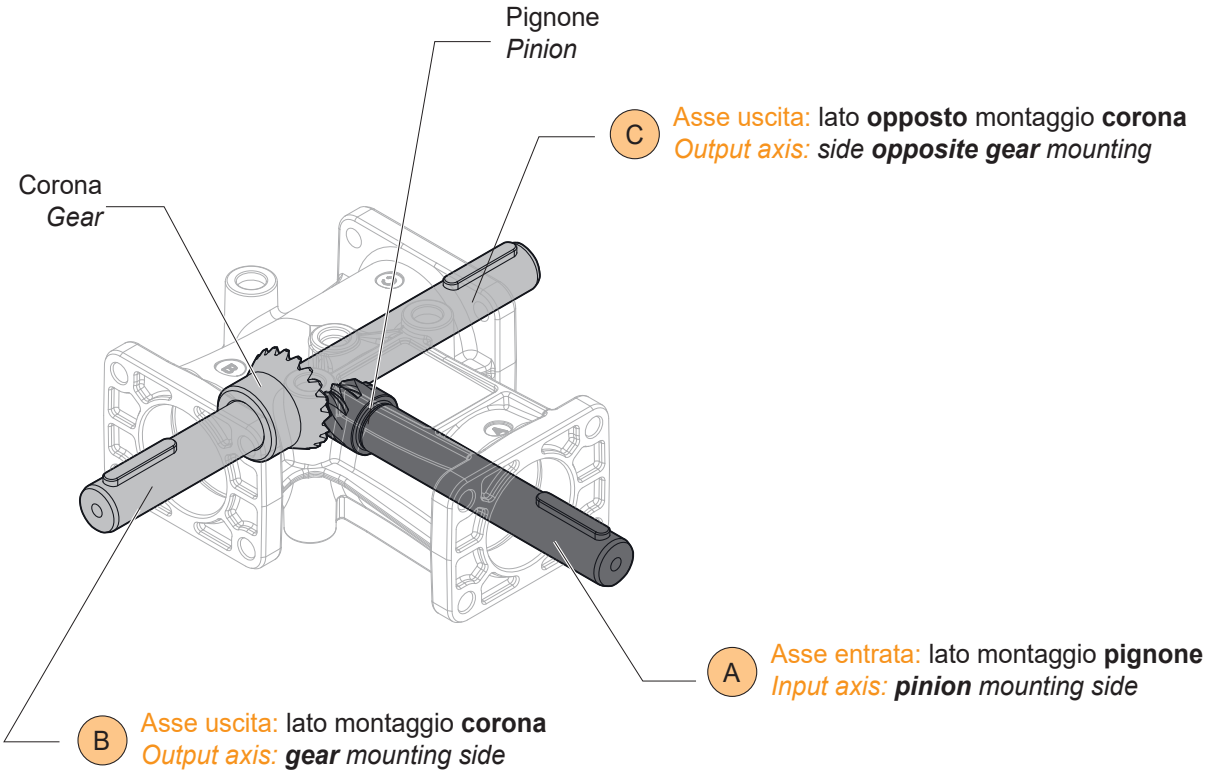
Those available:

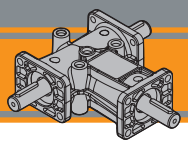
- *5 sizes: DZ1, DZ2, DZ3, DZ4 and DZ5*
- *2 ratios: 1/1 and 1/2;*
- *2 or 1 output power take-off;*
- *1 input flange and 2 output flanges. Only for sizes 1 and 2 the version with only 1 output flange is available*

Common features throughout the series are:

- *One-piece aluminium alloy casing prepared for 3-point fixing or, alternatively, 2 or 3 flanges at the power take-off*
- *GLEASON spiral bevel gear in Nickel Chrome steel with Case hardening treatment*
- *Solid shafts made of carbon steel, surface protected against corrosion with phosphating treatment. The keyways (not present on size DZ1) can assume any angular position.*
- *On size DZ3 there is a hollow output shaft with keyways*
- *Radial ball bearings (DZ3 with hollow shaft with conical output bearings)*
- *NBR type A sealing rings or NBR plugs where the shaft does not protrude*
- *Lubrication with synthetic oil ISO 150, except size 1 supplied with permanent 00 EP mineral grease*

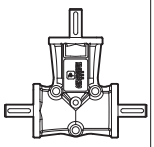
ENERGY SAVING



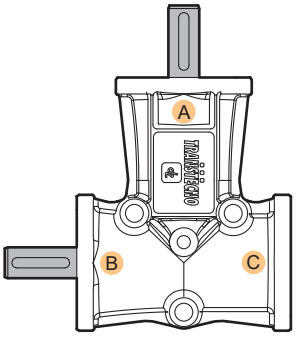


Designazione — *Classification*

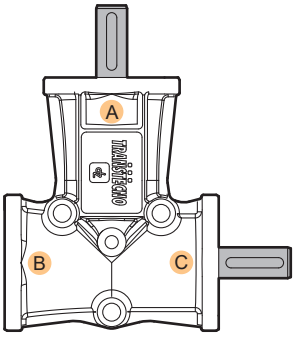
RINVIO ANGOLARE / *RIGHT-ANGLE BEVEL GEARBOX*

DZ	1	0	S	2F	A	B	-
Tipo *Type*	Grandezza *Size*	Rapporto *Ratio*	Tipo di montaggio *Monting type*	Flangia *Flange*	Albero in A *Shaft in A*	Albero in B *Shaft in B*	Albero in C *Shaft in C*
DZ 	**1** **2** **3** **4** **5**	**0 - 1** i = 1/1 **2 - 3** i = 1/2 **11** i = 1/1 Albero cavo *Hollow shaft*	**S** **FS** **...**	**2F** (n°2) **3F** (n°3)	**A**	**B** **-**	**C** **-**

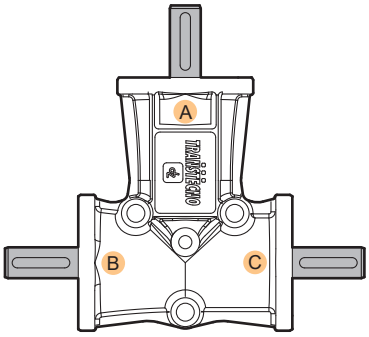
Versione — *Version*



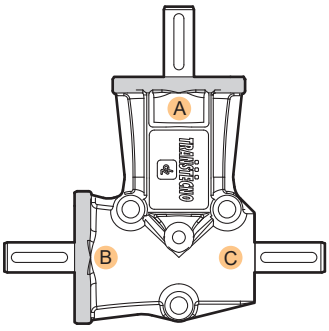
S..AB



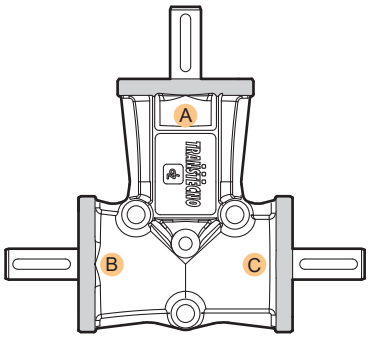
FS..AC



...ABC

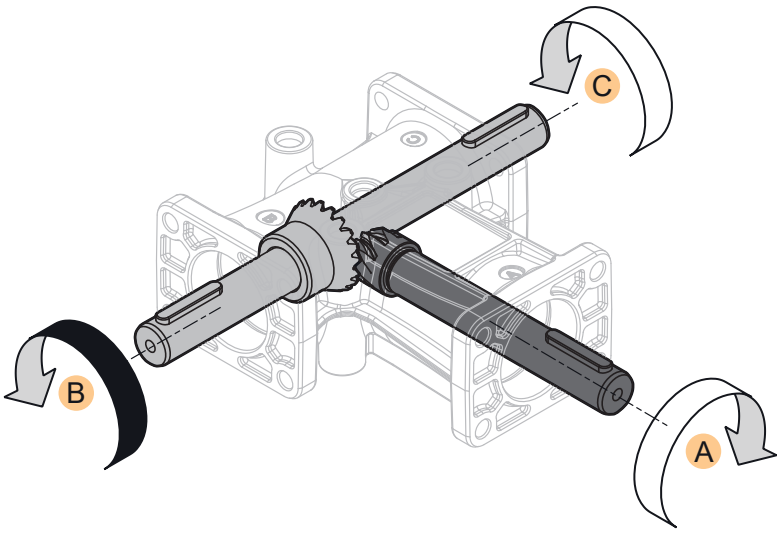


2F



3F

Sensi di rotazione — *Direction of rotation*



Simbologia — *Symbols*

n_1	[min^{-1}]	Velocità in ingresso / *Input speed*
n_2	[min^{-1}]	Velocità in uscita / *Output speed*
i		Rapporto di riduzione / *Ratio*
P_1	[kW]	Potenza in entrata / *Input power*
M_2	[Nm]	Coppia nominale in uscita in funzione di P_1 / *Output torque referred to P_1*
Pn_1	[kW]	Potenza nominale in entrata / *Nominal input power*
Mn_2	[Nm]	Coppia nominale in uscita in funzione di Pn_1 / *Nominal output torque referred to Pn_1*
sf		Fattore di servizio / *Service factor*
R_1	[N]	Carico radiale ammissibile in entrata / *Permitted input radial load*
A_1	[N]	Carico assiale ammissibile in entrata / *Permitted input axial load*
R_2	[N]	Carico radiale ammissibile in uscita / *Permitted output radial load*
A_2	[N]	Carico assiale ammissibile in uscita / *Permitted output axial load*
Kg	[kg]	Peso del solo riduttore / *Weight of the gearbox only*

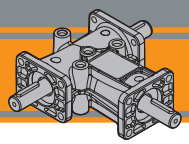
Lubrificazione — *Lubrication*

I rinvii angolari serie DZ, sono forniti completi di lubrificante sintetico ISO 150 , ad esclusione delle grandezze 1 forniti con grasso minerale 00 EP.

Possono essere installati in qualunque posizione di montaggio e non necessitano di manutenzione.

DZ-series right-angle bevel gearboxes are supplied complete with synthetic lubricant ISO 150, except size 1 supplied with 00 EP mineral grease.

They can be installed in any mounting position and are maintenance-free.



Carichi radiali e assiali

Entrata / Input

Radial and axial loads

Per carichi radiali o assiali superiori a quelli di tabella si prega di contattare il servizio tecnico

For radial or axial loads higher than those in the table, please contact technical service

	n1 [min^{-1}]	i	n_2 [min^{-1}]	R_1 [N]	A_1 [N]	n1 [min^{-1}]	i	n_2 [min^{-1}]	R_1 [N]	A_1 [N]
DZ 1	50	1	50	140	100	100	1	100	140	100
		2	25				2	50		
	250	1	250	120	100	500	1	500	82	100
		2	125	140			2	250	140	
	750	1	750	65	100	1000	1	1000	39	75
		2	375	140			2	500	140	100
	1500	1	1500	20	38	2000	1	2000	10	25
		2	750	130	100		2	1000	120	100
	2500	1	2500	5	12	3000	1	3000	*	*
		2	1250	110	100		2	1500	100	100
DZ 2	50	1	50	330	220	100	1	100	330	220
		2	25				2	50		
	250	1	250	200	220	500	1	500	135	220
		2	125	315			2	250	270	
	750	1	750	120	220	1000	1	1000	80	170
		2	375	235			2	500	150	185
	1500	1	1500	45	85	2000	1	2000	30	50
		2	750	75	110		2	1000	50	75
	2500	1	2500	15	25	3000	1	3000	*	*
		2	1250	25	35		2	1500		
DZ 3	50	1	50	690	460	100	1	100	690	460
		2	25				2	50		
	250	1	250	480	460	500	1	500	280	460
		2	125	690			2	250	690	
	750	1	750	215	460	1000	1	1000	110	455
		2	375	690			2	500	620	460
	1500	1	1500	50	350	2000	1	2000	20	250
		2	750	450	430		2	1000	350	400
	2500	1	2500	10	150	3000	1	3000	*	50
		2	1250	250	325		2	1500	150	250
DZ 4	50	1	50	960	640	100	1	100	960	640
		2	25				2	50		
	250	1	250	650	640	500	1	500	420	595
		2	125	960			2	250	960	640
	750	1	750	360	550	1000	1	1000	250	400
		2	375	960	640		2	500	780	640
	1500	1	1500	150	225	2000	1	2000	100	150
		2	750	450	570		2	1000	300	500
	2500	1	2500	50	80	3000	1	3000	*	*
		2	1250	230	400		2	1500	150	300
DZ 5	50	1	50	1100	740	100	1	100	1100	740
		2	25				2	50		
	250	1	250	1050	740	500	1	500	870	740
		2	125	1100			2	250	1100	
	750	1	750	740	740	1000	1	1000	450	720
		2	375	1100			2	500	950	740
	1500	1	1500	250	550	2000	1	2000	200	400
		2	750	600	565		2	1000	400	
	2500	1	2500	150	300	3000	1	3000	100	200
		2	1250	300	400		2	1500	200	400

* Contattare il servizio tecnico

* *Contact technical service*

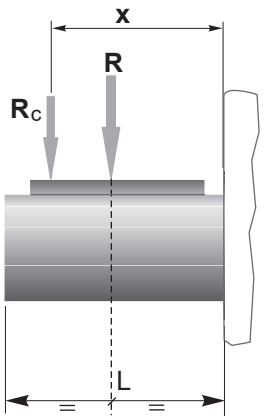
Carichi radiali

Entrata / Input

Radial loads

Quando il carico radiale risultante non è applicato sulla mezzeria dell'albero occorre calcolare quello effettivo con la seguente formula:

When the resulting radial load is not applied on the centre line of the shaft it is necessary to calculate the effective load with the following formula:

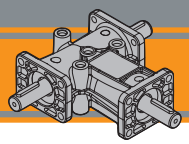


$$R_c = \frac{R \cdot a}{(b+x)} \leq R_{..MAX}$$

$$R \leq R_c$$

a, b = valori riportati nella tabella
a, b = values given in the table

	i	a	b	R_{max} [N]
DZ 1	1 2	47.5	40	140
DZ 2	1 2	75.5	58	330
DZ 3	1 2	119.5	94.5	690
DZ 4	1 2	131	96	960
DZ 5	1 2	131	96	1100



Carichi radiali e assiali

Uscita / Output

Radial and axial loads

Per carichi radiali o assiali superiori a quelli di tabella si prega di contattare il servizio tecnico

For radial or axial loads higher than those in the table, please contact technical service

	n1 [min^{-1}]	i	n_2 [min^{-1}]	R_1 [N]	A_1 [N]	n1 [min^{-1}]	i	n_2 [min^{-1}]	R_1 [N]	A_1 [N]
DZ 1	50	1	50	140	100	100	1	100	140	100
		2	25				2	50		
	250	1	250	140	100	500	1	500	140	100
		2	125				2	250		
	750	1	750	140	100	1000	1	1000	140	100
		2	375				2	500		
	1500	1	1500	133	85	2000	1	2000	125	75
		2	750	140	100		2	1000	140	100
	2500	1	2500	112	60	3000	1	3000	100	50
		2	1250	120	100		2	1500		100
DZ 2	50	1	50	330	220	100	1	100	330	220
		2	25				2	50		
	250	1	250	330	220	500	1	500	330	220
		2	125				2	250		
	750	1	750	330	220	1000	1	1000	330	220
		2	375				2	500		
	1500	1	1500	290	195	2000	1	2000	250	175
		2	750	330	220		2	1000	330	220
	2500	1	2500	225	160	3000	1	3000	200	150
		2	1250	330	220		2	1500	330	220
DZ 3	50	1	50	690	460	100	1	100	690	460
		2	25				2	50		
	250	1	250	690	460	500	1	500	690	460
		2	125				2	250		
	750	1	750	690	460	1000	1	1000	670	460
		2	375				2	500	690	
	1500	1	1500	550	430	2000	1	2000	450	400
		2	750	690	460		2	1000	690	460
	2500	1	2500	375	350	3000	1	3000	300	300
		2	1250	690	460		2	1500	690	460
DZ 4	50	1	50	960	640	100	1	100	960	640
		2	25				2	50		
	250	1	250	960	640	500	1	500	960	640
		2	125				2	250		
	750	1	750	960	640	1000	1	1000	880	640
		2	375				2	500	960	
	1500	1	1500	700	570	2000	1	2000	600	500
		2	750	960	640		2	1000	960	640
	2500	1	2500	500	400	3000	1	3000	400	300
		2	1250	960	640		2	1500	960	640
DZ 5	50	1	50	1100	740	100	1	100	1100	740
		2	25				2	50		
	250	1	250	1100	740	500	1	500	1100	740
		2	125				2	250		
	750	1	750	1100	740	1000	1	1000	1100	740
		2	375				2	500		
	1500	1	1500	920	670	2000	1	2000	700	600
		2	750	1100	740		2	1000	1100	740
	2500	1	2500	600	500	3000	1	3000	500	400
		2	1250	1100	740		2	1500	1100	740

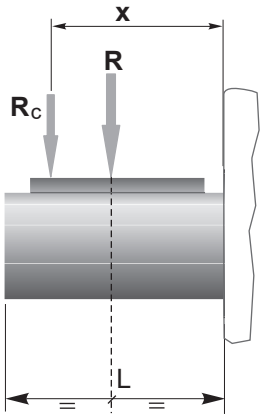
Carichi radiali

Uscita / Output

Radial loads

Quando il carico radiale risultante non è applicato sulla mezzeria dell'albero occorre calcolare quello effettivo con la seguente formula:

When the resulting radial load is not applied on the centre line of the shaft it is necessary to calculate the effective load with the following formula:

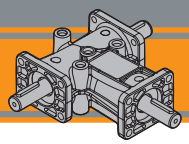


$$R_c = \frac{R \cdot a}{(b+x)} \leq R_{..MAX}$$

$$R \leq R_c$$

a, b = valori riportati nella tabella
a, b = values given in the table

	i	a	b	R_{max} [N]
DZ 1	1 2	61.5	54	140
DZ 2	1 2	102	84.5	330
DZ 3	1 2	145.5	120.5	690
DZ 4	1 2	169	134	960
DZ 5	1 2	169	134	1100



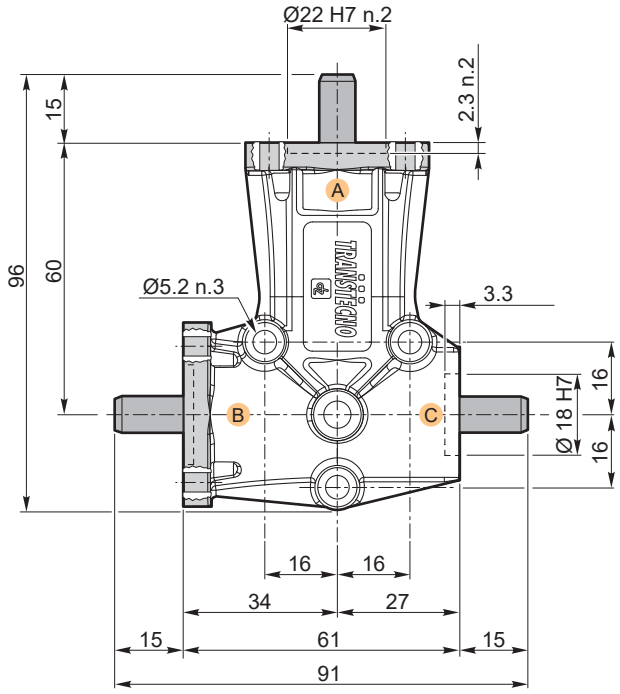
Dati tecnici

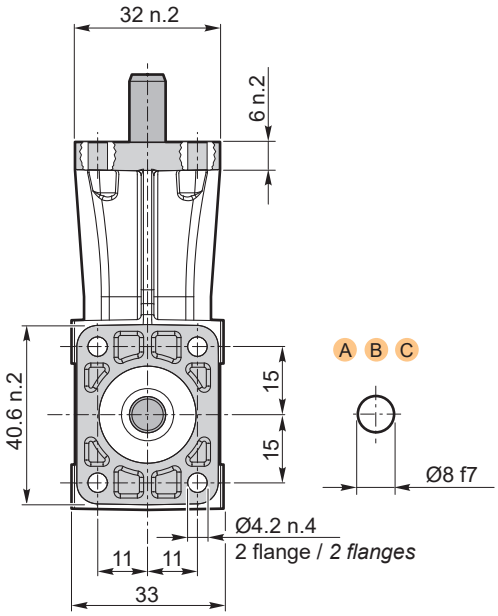
Technical data

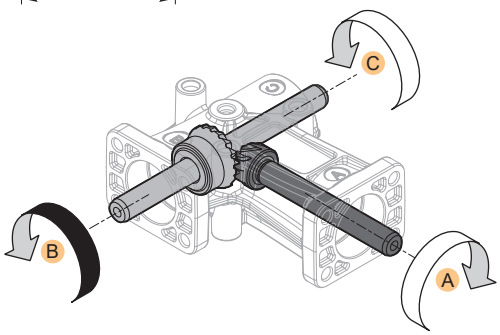
	i	n_1 [min^{-1}]	n_2 [min^{-1}]	M_{n2} [Nm]	P_{n1} [kW]	n_1 [min^{-1}]	n_2 [min^{-1}]	M_{n2} [Nm]	P_{n1} [kW]	n_1 [min^{-1}]	n_2 [min^{-1}]	M_{n2} [Nm]	P_{n1} [kW]	n_1 [min^{-1}]	n_2 [min^{-1}]	M_{n2} [Nm]	P_{n1} [kW]	n_1 [min^{-1}]	n_2 [min^{-1}]	M_{n2} [Nm]	P_{n1} [kW]
DZ 1	1	50	50	4.7	0.02	100	100	3.9	0.04	250	250	3.0	0.08	500	500	2.6	0.13	750	750	2.4	0.18
	2		25	3.6	0.01		50	3.5	0.02		125	3.1	0.04		250	2.7	0.07		375	2.5	0.09
	1	1000	1000	2.1	0.21	1500	1500	1.9	0.29	2000	2000	1.8	0.36	2500	2500	1.75	0.44	3000	3000	1.7	0.51
	2		500	2.2	0.11		750	1.9	0.14		1000	1.8	0.18		1250	1.75	0.22		1500	1.7	0.26
DZ 2	1	50	50	16.5	0.08	100	100	14	0.14	250	250	10.5	0.26	500	500	9.0	0.45	750	750	8.5	0.64
	2		25	15	0.04		50	15	0.08		125	11	0.14		250	9.5	0.24		375	9.1	0.34
	1	1000	1000	7.5	0.75	1500	1500	6.9	1.04	2000	2000	6.6	1.33	2500	2500	6.2	1.56	3000	3000	5.9	1.78
	2		500	8.0	0.40		750	6.9	0.52		1000	6.5	0.65		1250	6.4	0.80		1500	6.3	0.95
DZ 3	1	50	50	53	0.27	100	100	45	0.45	250	250	34	0.85	500	500	30	1.51	750	750	29	2.15
	2		25	39	0.10		50	37	0.19		125	33	0.41		250	28	0.70		375	26.5	1.00
	1	1000	1000	25	2.51	1500	1500	22	3.32	2000	2000	21	4.22	2500	2500	20	5.03	3000	3000	19	5.73
	2		500	23.2	1.17		750	20.5	1.55		1000	20	2.01		1250	19.5	2.45		1500	19	2.86
DZ 4	1	50	50	87	0.44	100	100	74	0.74	250	250	56	1.41	500	500	49	2.46	750	750	46	3.47
	2		25	90	0.23		50	82	0.41		125	63.5	0.80		250	55	1.38		375	52	1.96
	1	1000	1000	41	4.12	1500	1500	36	5.43	2000	2000	35	7.04	2500	2500	33	8.29	3000	3000	31	9.35
	2		500	45	2.26		750	39	2.94		1000	37	3.72		1250	36.3	4.56		1500	35	5.28
DZ 5	1	50	50	120	0.60	100	100	100	1.01	250	250	78	1.96	500	500	66	3.32	750	750	63	4.75
	2		25	95	0.24		50	90	0.45		125	78	0.98		250	67	1.68		375	63	2.37
	1	1000	1000	56	5.63	1500	1500	50	7.54	2000	2000	48	9.65	2500	2500	46	11.56	3000	3000	43	12.97
	2		500	55	2.76		750	47.5	3.58		1000	45	4.52		1250	43.5	5.47		1500	42	6.33

Dimensioni ***Dimensions***

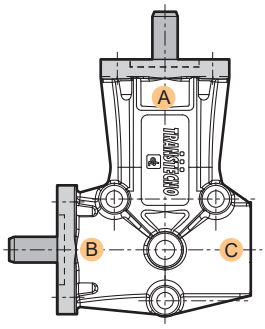
DZ 1 ... 2F ...



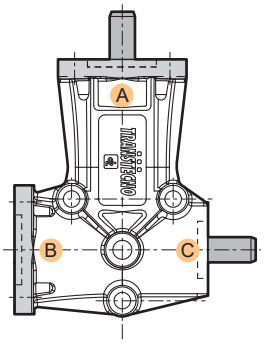




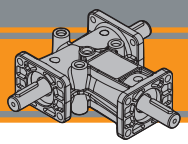
i	Code	Kg
1	DZ 11 2F ABC	0.3
2	DZ 13 2F ABC	



i	Code	Kg
1	DZ 10 S 2F AB	0.3
2	DZ 12 S 2F AB	

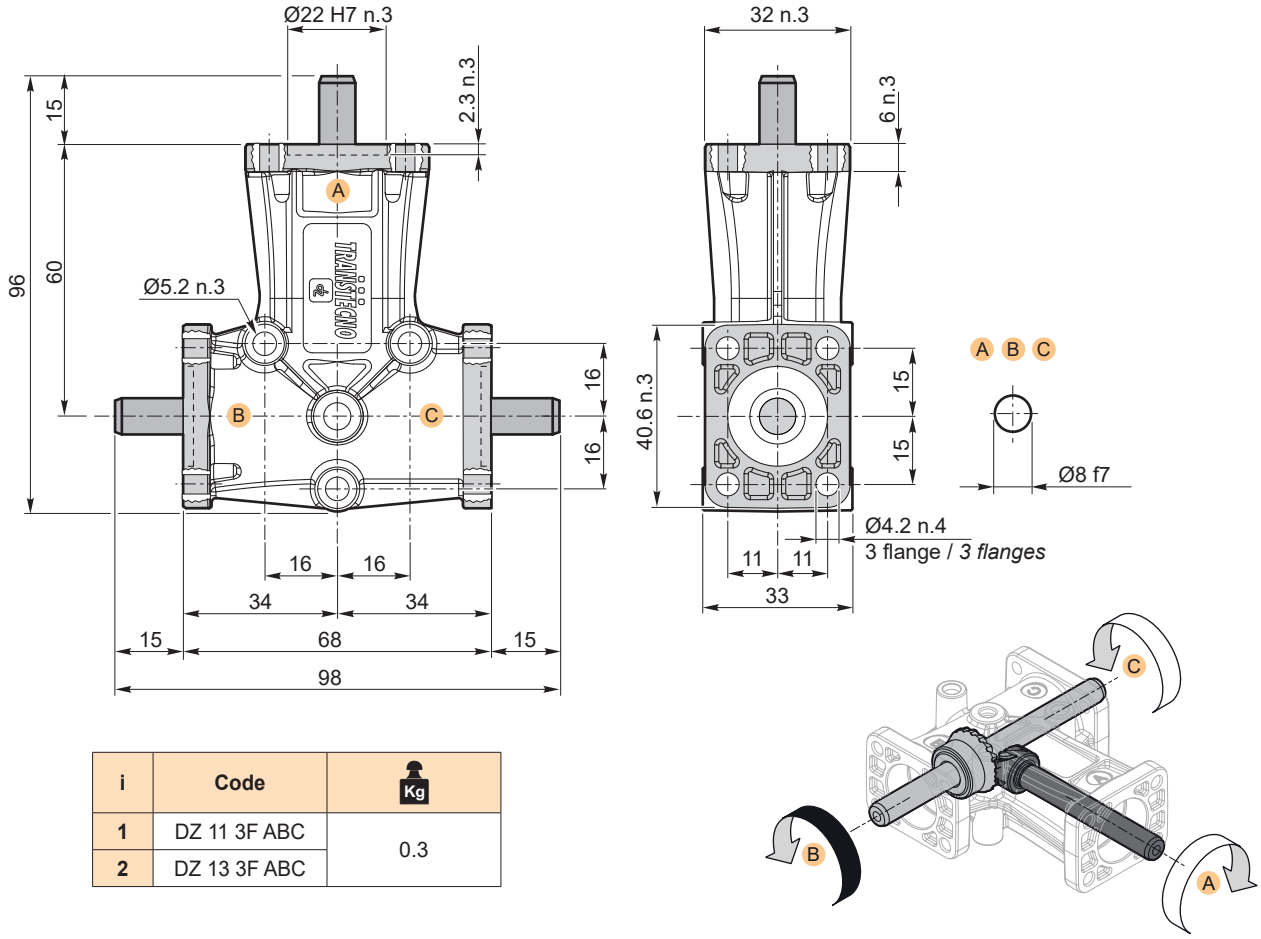


i	Code	Kg
1	DZ 10 FS 2F AC	0.3
2	DZ 12 FS 2F AC	

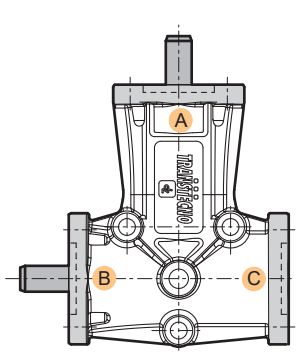


Dimensioni ***Dimensions***

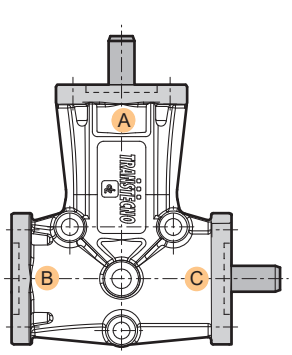
DZ 1... 3F ...



i	Code	Kg
1	DZ 11 3F ABC	0.3
2	DZ 13 3F ABC	



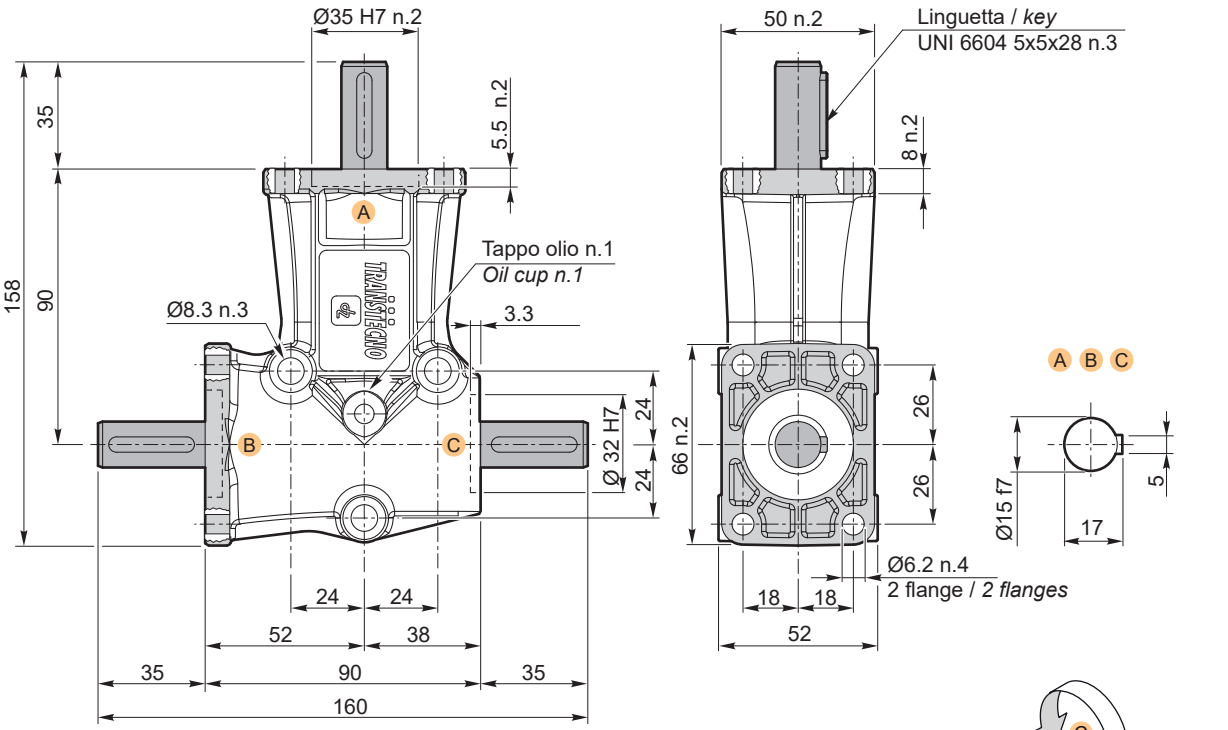
i	Code	Kg
1	DZ 10 S 3F AB	0.3
2	DZ 12 S 3F AB	



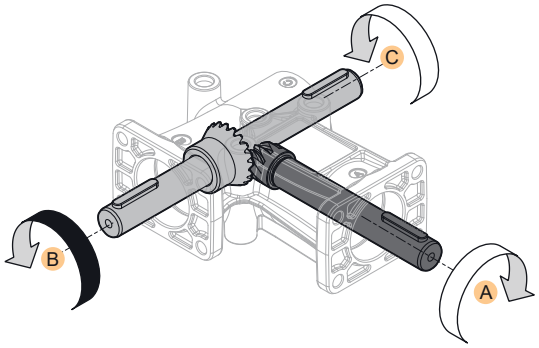
i	Code	Kg
1	DZ 10 FS 3F AC	0.3
2	DZ 12 FS 3F AC	

Dimensioni ***Dimensions***

DZ 2 ... 2F ...

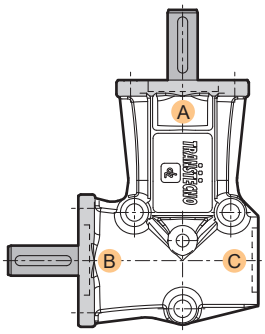


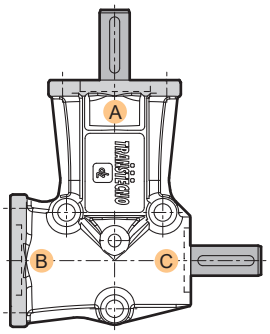
i	Code	Kg
1	DZ 21 2F ABC	1.2
2	DZ 23 2F ABC	



Le sedi linguetta negli alberi cavi come negli alberi maschi possono assumere qualsiasi posizione angolare.

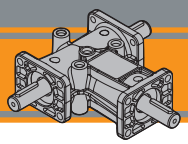
The keyways in hollow shafts as in solid shafts can assume any angular position.





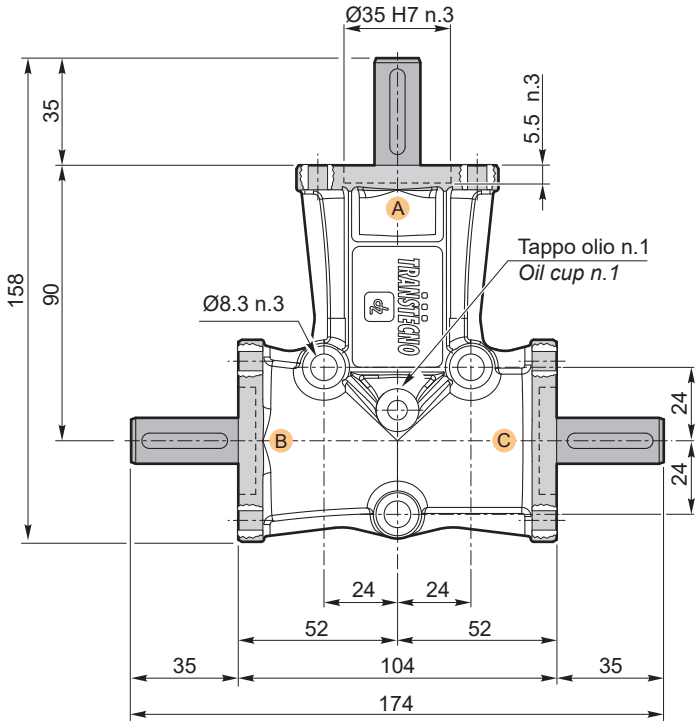
i	Code	Kg
1	DZ 20 S 2F AB	1.1
2	DZ 22 S 2F AB	

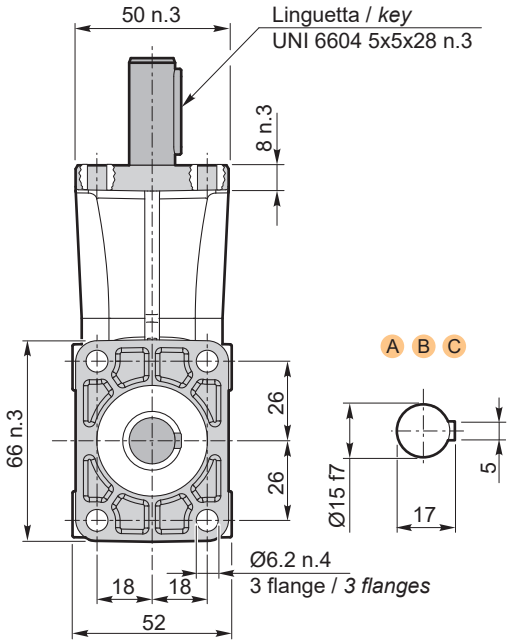
i	Code	Kg
1	DZ 20 FS 2F AC	1.1
2	DZ 22 FS 2F AC	



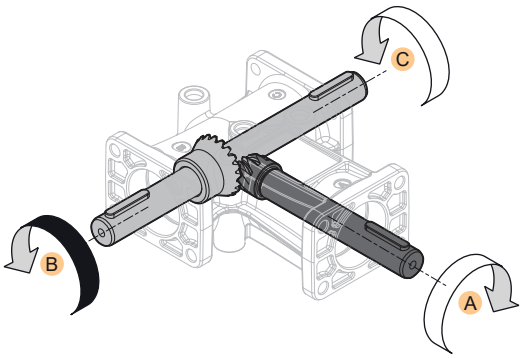
Dimensioni ***Dimensions***

DZ 2 ... 3F ...



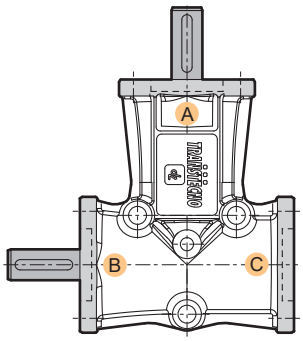


i	Code	Kg
1	DZ 21 3F ABC	1.2
2	DZ 23 3F ABC	

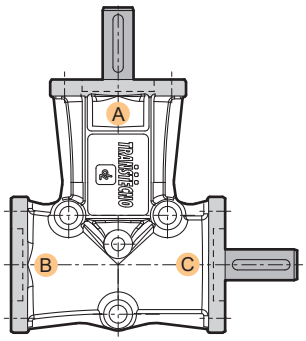


Le sedi linguetta negli alberi cavi come negli alberi maschi possono assumere qualsiasi posizione angolare.

The keyways in hollow shafts as in solid shafts can assume any angular position.



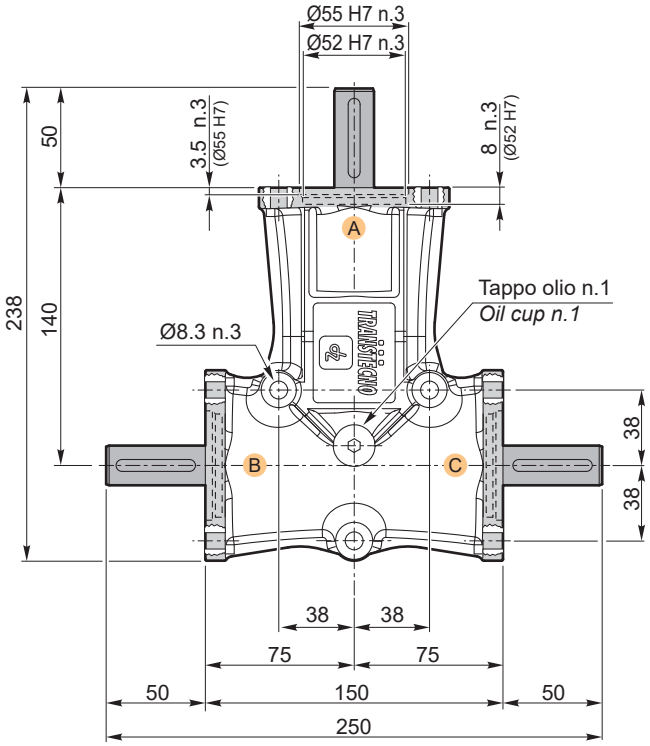
i	Code	Kg
1	DZ 20 S 3F AB	1.1
2	DZ 22 S 3F AB	

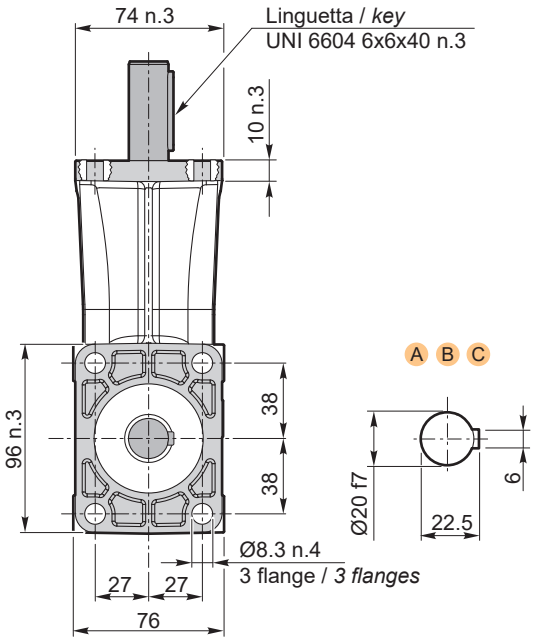


i	Code	Kg
1	DZ 20 FS 3F AC	1.1
2	DZ 22 FS 3F AC	

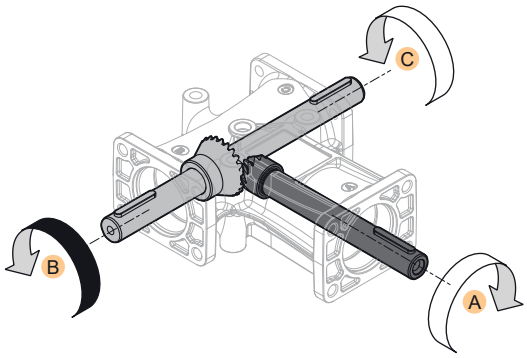
Dimensioni ***Dimensions***

DZ 3 ... 3F ...



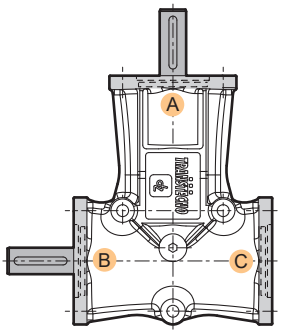


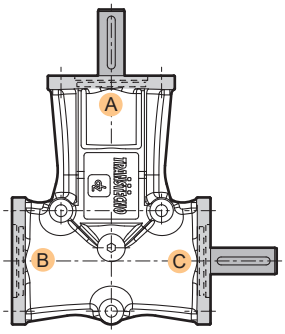
i	Code	Kg
1	DZ 31 3F ABC	3.5
2	DZ 33 3F ABC	



Le sedi linguetta negli alberi cavi come negli alberi maschi possono assumere qualsiasi posizione angolare.

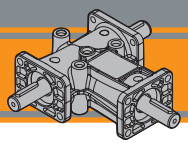
The keyways in hollow shafts as in solid shafts can assume any angular position.





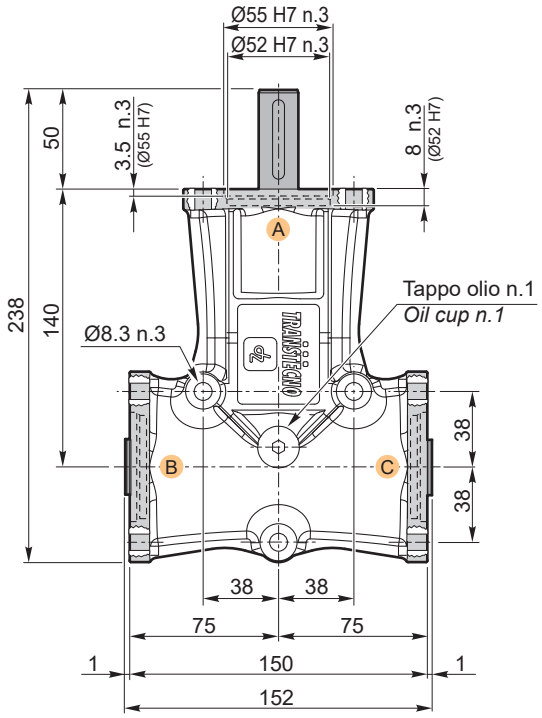
i	Code	Kg
1	DZ 30 S 3F AB	3.4
2	DZ 32 S 3F AB	

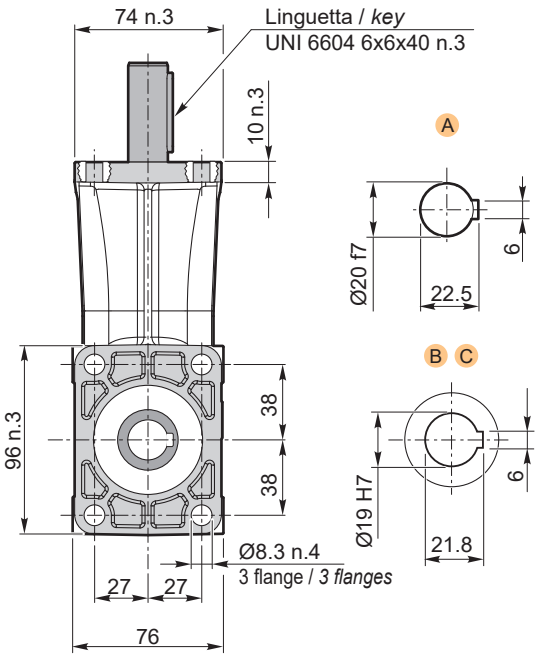
i	Code	Kg
1	DZ 30 FS 3F AC	3.4
2	DZ 32 FS 3F AC	

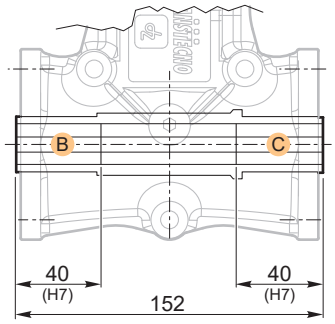


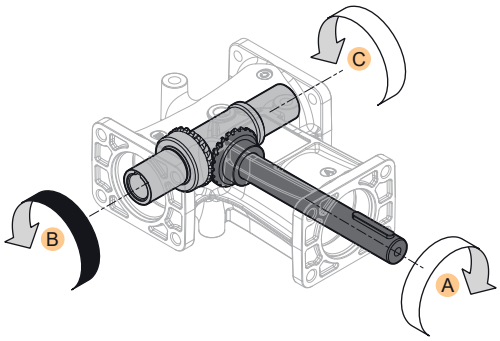
Dimensioni ***Dimensions***

DZ 3 ... 3F ... albero cavo / *hollow shaft*









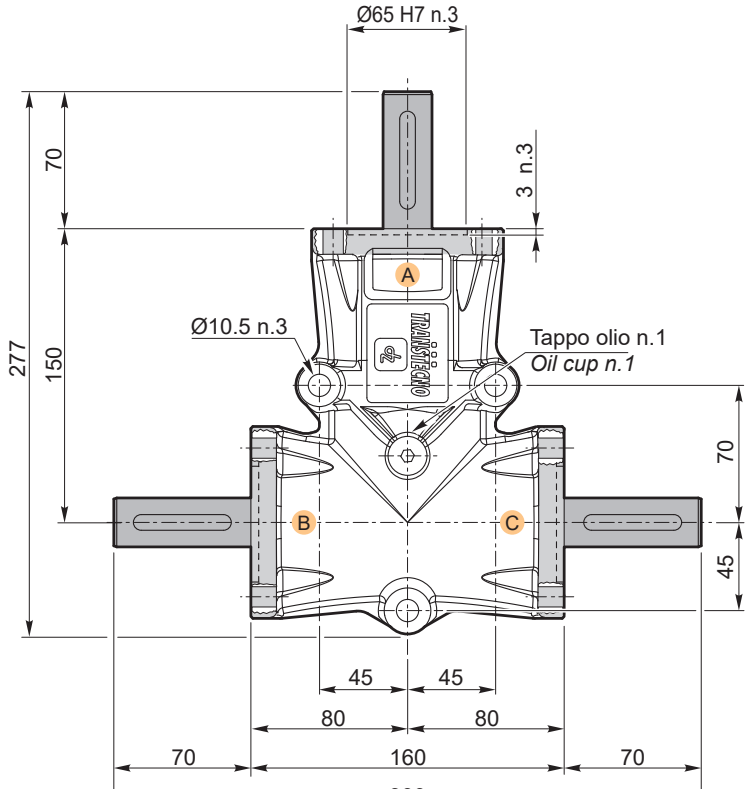
Le sedi linguetta negli alberi cavi come negli alberi maschi possono assumere qualsiasi posizione angolare.

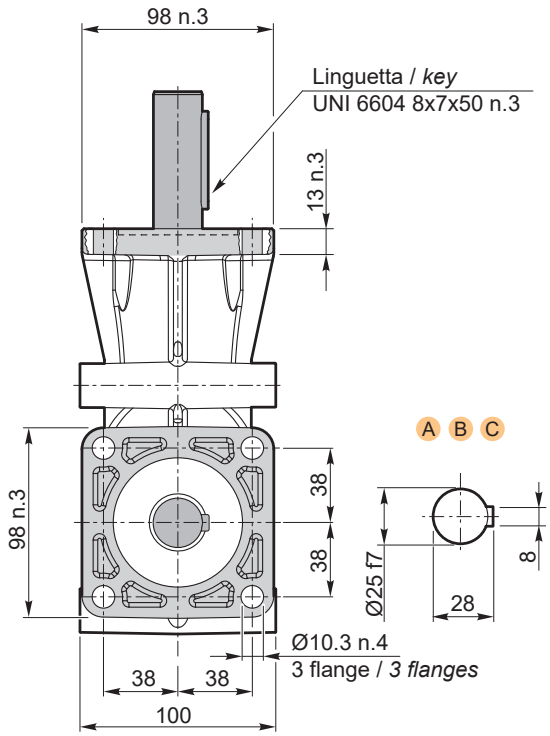
The keyways in hollow shafts as in solid shafts can assume any angular position.

i	Code	Kg
1	DZ 311 3F ABC	3.3

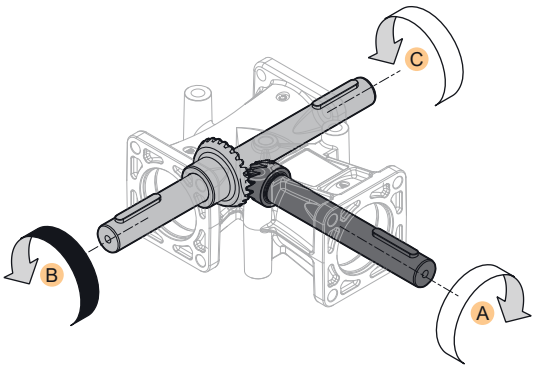
Dimensioni ***Dimensions***

DZ 4 ... 3F ...



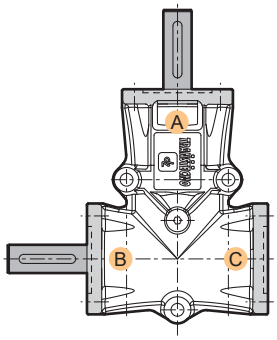


i	Code	Kg
1	DZ 41 3F ABC	5.8
2	DZ 43 3F ABC	

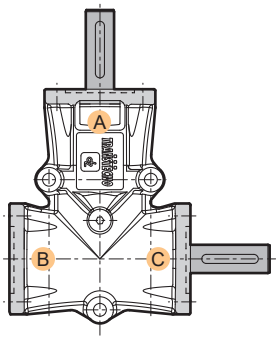


Le sedi linguetta negli alberi cavi come negli alberi maschi possono assumere qualsiasi posizione angolare.

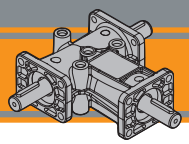
The keyways in hollow shafts as in solid shafts can assume any angular position.



i	Code	Kg
1	DZ 40 S 3F AB	5.5
2	DZ 42 S 3F AB	

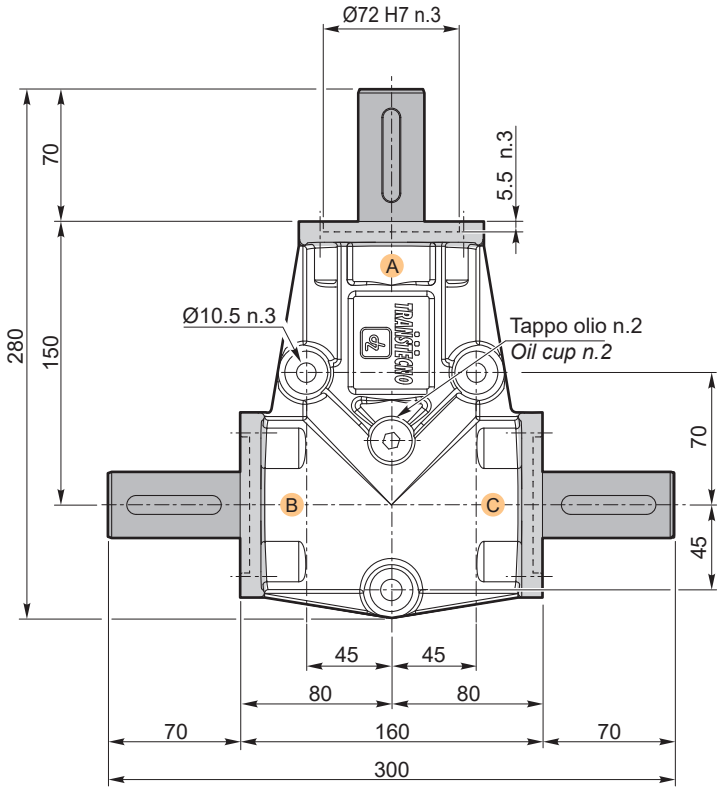


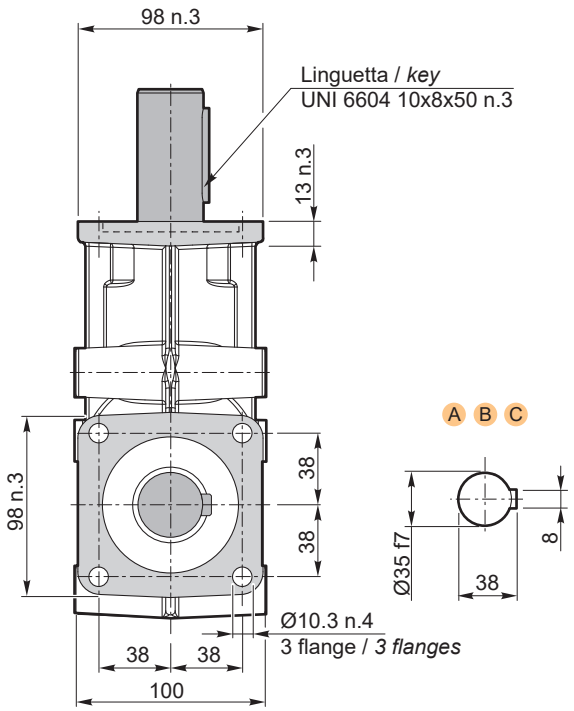
i	Code	Kg
1	DZ 40 FS 3F AC	5.5
2	DZ 42 FS 3F AC	



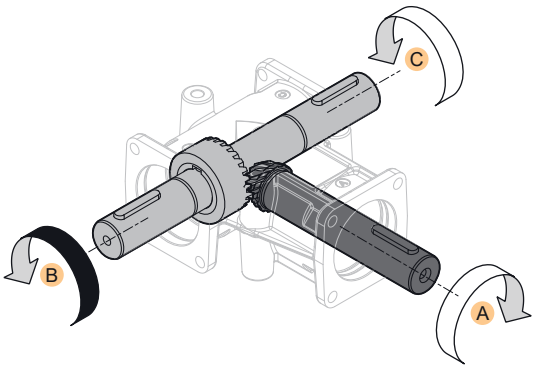
Dimensioni ***Dimensions***

DZ 5 ... 3F ...



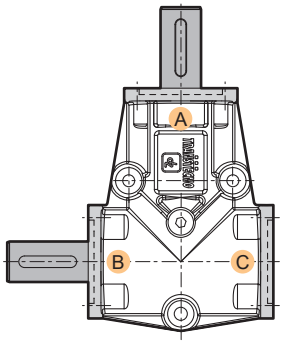


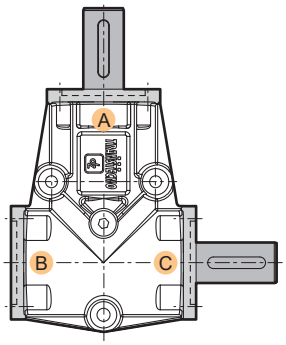
i	Code	Kg
1	DZ 51 3F ABC	8.8
2	DZ 53 3F ABC	



Le sedi linguetta negli alberi cavi come negli alberi maschi possono assumere qualsiasi posizione angolare.

The keyways in hollow shafts as in solid shafts can assume any angular position.





i	Code	Kg
1	DZ 50 S 3F AB	8.1
2	DZ 52 S 3F AB	

i	Code	Kg
1	DZ 50 FS 3F AC	8.1
2	DZ 52 FS 3F AC	

Note/*Notes*