RENVOIS D'ANGLE DE PRECISION

RIGHT-ANGLE PRECISION BEVEL GEAR DRIVES

dz trasmissioni

SERIE **DZ** ET **ZP**

***DZ** AND **ZP** SERIES*

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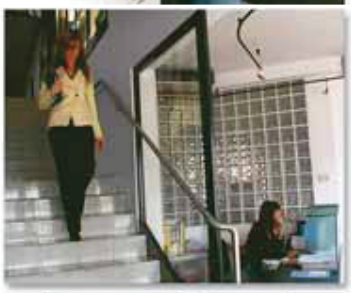
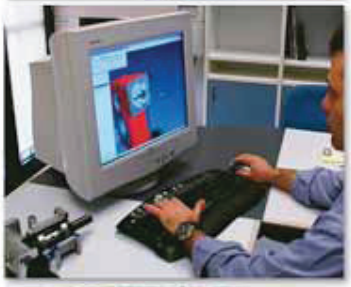
ENTREPRISE

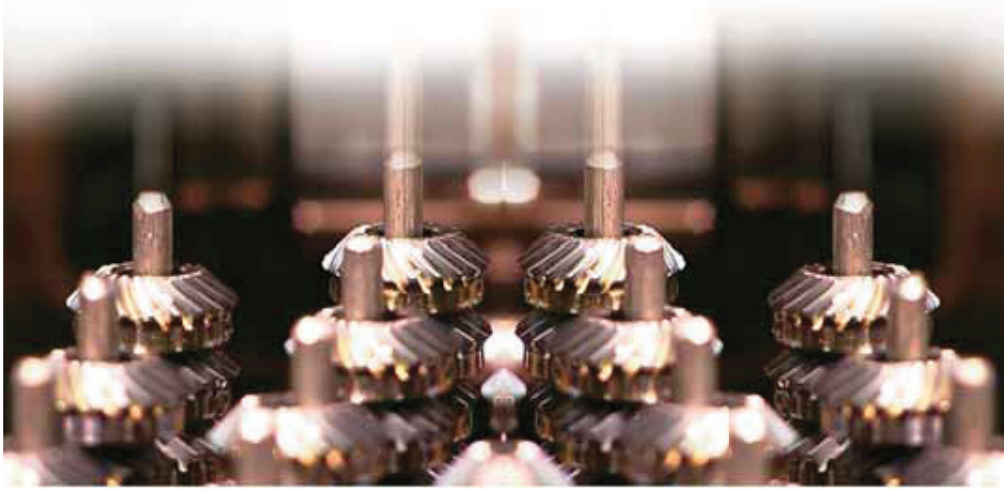
DZ Trasmissioni, grâce à son expérience de plus de vingt ans, résout avec les renvois d'angle standard, mais aussi spéciaux, n'importe quel problème de transmission de puissance d'un mouvement de rotation entre deux axes disposés à 90°.
La gamme standard comprend 9 tailles différentes, arbres de 8 à 35 mm, puissances jusqu'à 15 Kw et une vitesse de rotation jusqu'à 3000 tours/minute.
La dimension de l'entreprise et sa structure autorisent l'étude et la réalisation de transmissions spéciales dans des délais restreints. Un service technico-commercial qualifié est assuré pour résoudre les problèmes du client d'une façon tout à fait fiable et avantageuse. N'hésitez pas à nous exposer votre problème, il se peut que parmi les nombreuses séries spéciales que nous réalisons déjà pour nos clients, il y en ait une s'adaptant à vos exigences.

COMPANY

Thanks to its 20 year experience in the manufacture of standard and special bevel gears, DZ TRASMISSIONI is able to solve any problem connected with the power transmission of a rotary motion between two axes arranged at 90°.
The standard range includes 9 different sizes, shafts from 8 to 35 mm, powers up to 15 kW and speeds of rotation up to 3000 revolutions/minute.
The company capacity and its organization enable the study and manufacture of special gearboxes in very short times.
A qualified technical and sales service is at customer's disposal to solve his problem in the most reliable and cost-saving way.
Let us know your requirements, a suitable solution to your problem perhaps exists among the various special units we already manufacture for our customers.







trasmissioni

PRESENTATION

Les renvois d'angle série DZ et ZP ont été spécialement conçus pour des applications industrielles, où il y a lieu de transmettre un mouvement de rotation de puissance entre des arbres disposés perpendiculairement entre eux. Ils sont prévus dans 9 tailles différentes. Ils peuvent être à 2 ou 3 sorties avec un rapport de transmission 1/1 ou 1/2 ou 1/3. On peut disposer d'une série standard comme d'une vaste gamme d'éléments spéciaux suivant plan client. Les 8 dernières pages du catalogue reportent quelques exemples. Pour plus d'informations, n'hésitez pas à contacter notre service technique commercial.

PRESENTATION

DZ and ZP right-angle drivers are designed for industrial applications where rotary power must be transferred between two shafts at right-angles to each other. Dz and ZP series units are available in 9 different sizes with 2 o 3 outputs with: 1:1 and 1:2 and 1:3 trasmission ratios. Besides the standard series we also manufacture a special range of angle bevel gears to customer's specifications. For some examples, please refer to the last 8 pages of the catalogue. For further information, contact our Technical Sales Office.

CARACTERISTIQUES

FEATURES

CARTER

Monobloc rigide en alliage d'aluminium 4 ou 6 niveaux d'attache, 3/4 conditions de centrage. La série inox utilise l'acier inoxydable.

HOUSING

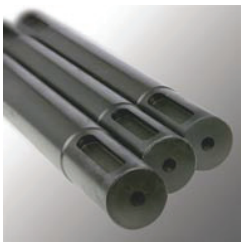
Single-piece aluminium alloy casting with 4 or 6 mounting points and 3 or 4 centering conditions.
A stainless steel version is also available.

ENGRENAGES

Coniques découpés sur des machines GLEASON, denture spiroïdale assurant la capacité de chargement maximum. Ils sont réalisés en acier au Nickel -Chrome; le traitement superficiel de cémentation-trempe assure une longue durée à l'usure, tout en laissant le coeur de la dent tenace et élastique, afin de faire face aux chocs mécaniques.
Le jeu entre les engrenages est réglé, afin de garantir un engrènement et silencieux; au cas où on le demanderait expressément, il est possible de le réduire à 5' avec des conditions spéciales de livraison et de prix.

GEARS

SPIRAL bevel gears cut on GLEASON hobbing machines to ensure maximum load capacity.
Nickel-chrome steel gears with surface case-hardened gear teeth; this ensures maximum service life while leaving the tooth core tough and flexible to resist mechanical shocks.
Units are manufactured with backlash tolerances to ensure perfect gear engagement and silent operation. Backlash tolerances can be reduced to a minimum of 5' if specifically requested; ask for details of special prices and delivery conditions on these orders.



ARBRES

Ils sont réalisés en acier traité à 80Kg/mm^2, protégés superficiellement contre la corrosion. Ils sont fournis avec une rainure de clavette conforme aux normes UNI (à l'exception de la taille 1 et 201). Les rainures de clavette peuvent prendre n'importe quelle position angulaire. La série inox utilise l'acier inoxydable.

SHAFTS

Manufactured in steel with 80 Kg/mm^2 surface treatment for corrosion protection.
Shaft coupling on the power take-off is by ISO standard keyways (except for Size 1 and 201).
Keyways can be made at any angle.
A stainless steel version is also available.

ROULEMENTS

Il s'agit de roulement à billes largement dimensionnées. Dans des cas particuliers on utilise des roulements à rouleaux coniques et/ou contacts obliques.

BEARING

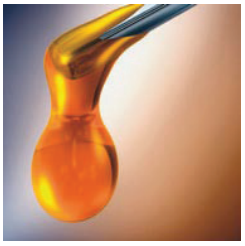
Large bearings in deep races. In specific cases, tapered rollers and/or bias bearings are used.

ETANCHEITE LUBRIFIANT INTERNE

Des bagues d'étanchéité sont montées sur tous les modèles. Sur demande sont prévues des bagues spécialement conçues pour de hautes et basses températures (la série inox utilise des bagues en silicone).

OIL SEALS

Oil seal rings are fitted to all models.
Special seal rings for high and low temperatures are available upon request (Silicon rings are used in the stainless steel version).



LUBRIFICATION

Les renvois d'angles sont fournis déjà équipés de lubrifiant, les tailles 1 avec de la graisse permanente, toutes les autres tailles avec de l'huile. En cas d'applications spécifiques sont prévues des huiles et graisses spéciales.

LUBRICATION

Units are supplied already filled with lubricant. Size 1 units are filled with long-life grease; all other sizes are oil filled. For specific applications, special oils and greases are available.

IDENTIFICATION

Les tableaux 1 reportés ci-après pour chaque modèle indiquent: le diamètre de l'arbre, le rapport de transmission, **l'arbre d'entrée A**, les arbres de sortie B, C ou D, le sens de rotation (en regardant l'arbre de face). **L'arbre A par convention est considéré comme arbre d'entrée**, dans les modèles ayant un rapport 1/2 1/3 c'est l'arbre rapide.

IDENTIFICATION

*Table 1 shows the following information for each model; the shaft diameter, the transmission ratio, **the input shaft A,** the output shaft B, C or D and the direction of rotation (front view to the shaft). **In accordance with accepted usage, shaft A is the input shaft;** on models with a 1:2 and 1:3 ratio, shaft A is the fast shaft.*

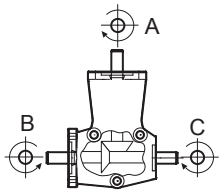
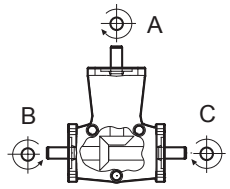
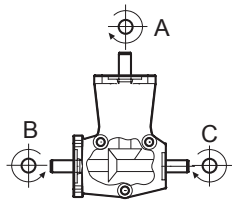
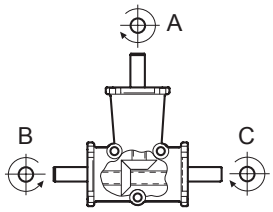
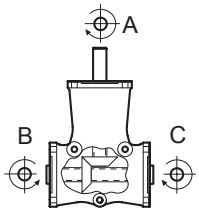
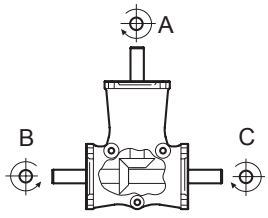
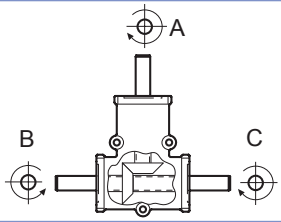
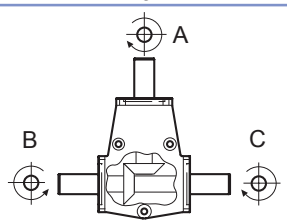
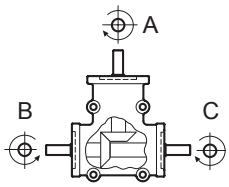
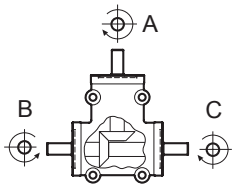
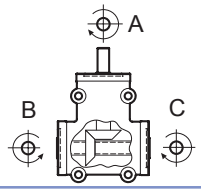
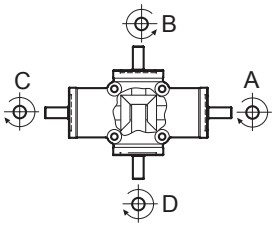
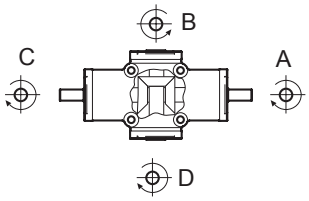
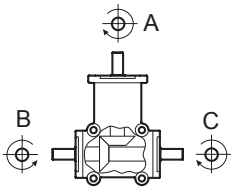
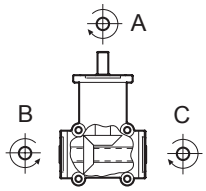
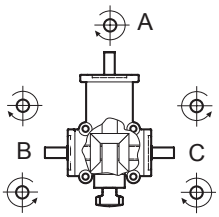
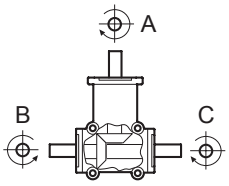
TABLEAU / TABLE 1	mod. DZ	Arbre / *Shaft*	Rapp. / *Ratio*	Entrée / *In*	Sortie / *Out*	Modèle / *Model*	Poids / *Weight*
1		Ø 8	1/1	A	B	DZ 10S–2FAB–	0.3 Kg
		Ø 8	1/1	A	C	DZ 10FS2FAC–	
		Ø 8	1/2	A	B	DZ 12S–2FAB–	
		Ø 8	1/2	A	C	DZ 12FS2FAC–	
		Ø 8	1/1	A	B – C	DZ 11—2FABC	
		Ø 8	1/2	A	B – C	DZ 13—2FABC	
1		Ø 8	1/1	A	B	DZ 10S–3FAB–	0.3 Kg
		Ø 8	1/1	A	C	DZ 10FS3FAC–	
		Ø 8	1/2	A	B	DZ 12S–3FAB–	
		Ø 8	1/2	A	C	DZ 12FS3FAC–	
		Ø 8	1/1	A	B – C	DZ 11—3FABC	
		Ø 8	1/2	A	B – C	DZ 13—3FABC	
2		Ø 15	1/1	A	B	DZ 20S–2FAB–	1.1 Kg
		Ø 15	1/1	A	C	DZ 20FS2FAC–	
		Ø 15	1/2	A	B	DZ 22S–2FAB–	
		Ø 15	1/2	A	C	DZ 22FS2FAC–	
		Ø 15	1/1	A	B – C	DZ 21—2FABC	1.2 Kg
		Ø 15	1/2	A	B – C	DZ 23—2FABC	
2		Ø 15	1/1	A	B	DZ 20S–3FAB–	1.1 Kg
		Ø 15	1/1	A	C	DZ 20FS3FAC–	
		Ø 15	1/2	A	B	DZ 22S–3FAB–	
		Ø 15	1/2	A	C	DZ 22FS3FAC–	
		Ø 15	1/1	A	B – C	DZ 21—3FABC	1.2 Kg
		Ø 15	1/2	A	B – C	DZ 23—3FABC	
3		Ø 19-20	1/1	A	B – C	DZ 311—3FABC	3.3 Kg
3		Ø 20	1/1	A	B	DZ 30S–3FAB–	3.4 Kg
		Ø 20	1/1	A	C	DZ 30FS3FAC–	
		Ø 20	1/2	A	B	DZ 32S–3FAB–	
		Ø 20	1/2	A	C	DZ 32FS3FAC–	
		Ø 20	1/1	A	B – C	DZ 31—3FABC	3.5 Kg
		Ø 20	1/2	A	B – C	DZ 33—3FABC	
4		Ø 25	1/1	A	B	DZ 40S–3FAB–	5.5 Kg
		Ø 25	1/1	A	C	DZ 40FS3FAC–	
		Ø 25	1/2	A	B	DZ 42S–3FAB–	
		Ø 25	1/2	A	C	DZ 42FS3FAC–	
		Ø 25	1/1	A	B – C	DZ 41—3FABC	5.8 Kg
		Ø 25	1/2	A	B – C	DZ 43—3FABC	
5		Ø 35	1/1	A	B	DZ 50S–3FAB–	8.1 Kg
		Ø 35	1/1	A	C	DZ 50FS3FAC–	
		Ø 35	1/2	A	B	DZ 52S–3FAB–	
		Ø 35	1/2	A	C	DZ 52FS3FAC–	
		Ø 35	1/1	A	B – C	DZ 51—3FABC	8.8 Kg
		Ø 35	1/2	A	B – C	DZ 53—3FABC	

TABLEAU TABLE 1	mod. ZP	Arbre *Shaft*	Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1		Ø 8	1/1	A	B	ZP 10S–4PAB–	0.6 Kg
		Ø 8	1/1	A	C	ZP 10FS4PAC–	
		Ø 8	1/2	A	B	ZP 12S–4PAB–	
		Ø 8	1/2	A	C	ZP 12FS4PAC–	
		Ø 8	1/1	A	B – C	ZP 11—4PABC	
		Ø 8	1/2	A	B – C	ZP 13—4PABC	
2		Ø 14	1/1	A	B	ZP 20S–4PAB–	2 Kg
		Ø 14	1/1	A	C	ZP 20FS4PAC–	
		Ø 14	1/2	A	B	ZP 22S–4PAB–	
		Ø 14	1/2	A	C	ZP 22FS4PAC–	
		Ø 14	1/3	A	B	ZP 24S–4PAB	
		Ø 14	1/3	A	C	ZP 24FS4PAC–	
		Ø 14	1/1	A	B – C	ZP 21–4PABC	
		Ø 14	1/2	A	B – C	ZP 23—4PABC	
		Ø 14	1/3	A	B – C	ZP 25—4PABC	
2		Ø 14	1/1	A	B – C	ZP 211–4P3V–	1.9 Kg
		Ø 14	1/2	A	B – C	ZP 213–4P3V–	
		Ø 14	1/3	A	B – C	ZP 215–4P3V–	
2		Ø 14	1/1	A	B – C	ZP 220S–4PABC	3.2 Kg
		Ø 14	1/1	A	C – D	ZP 220FS4PACD	
		Ø 14	1/2	A	B – C	ZP 222S–4PABC	
		Ø 14	1/2	A	C – D	ZP 222FS4PACD	
		Ø 14	1/3	A	B – C	ZP 224S–4PABC	
		Ø 14	1/3	A	C – D	ZP 224FS4PACD	
		Ø 14	1/1	A	B – C – D	ZP 221–4PABCD	
		Ø 14	1/2	A	B – C – D	ZP 223–4PABCD	
		Ø 14	1/3	A	B – C – D	ZP 225–4PABCD	
2		Ø 14	1/1	A	B – C – D	ZP 211–4P4V–	3.1 Kg
		Ø 14	1/2	A	B – C – D	ZP 213–4P4V–	
		Ø 14	1/3	A	B – C – D	ZP 215–4P4V–	
3		Ø 19	1/1	A	B	ZP 30S–4PAB–	4.5 Kg
		Ø 19	1/1	A	C	ZP 30FS4PAC–	
		Ø 19	1/2	A	B	ZP 32S–4PAB–	
		Ø 19	1/2	A	C	ZP 32FS4PAC–	
		Ø 19	1/3	A	B	ZP 34S–4PAB–	
		Ø 19	1/3	A	C	ZP 34FS4PAC–	
		Ø 19	1/1	A	B – C	ZP 31—4PABC	
		Ø 19	1/2	A	B – C	ZP 33—4PABC	
		Ø 19	1/3	A	B – C	ZP 35—4PABC	
3		Ø 19	1/1	A	B – C	ZP 311—4P3V–	4.4 Kg
		Ø 19	1/2	A	B – C	ZP 313—4P3V–	
		Ø 19	1/3	A	B – C	ZP 315—4P3V–	
3		Ø 19	1/1	A	B	ZP 30 – INVERT	4.6 Kg
		Ø 19	1/1	A	B – C	ZP 31 – INVERT	
4		Ø 24	1/1	A	B	ZP 40S–4PAB–	4.6 Kg
		Ø 24	1/1	A	C	ZP 40FS4PAC–	
		Ø 24	1/2	A	B	ZP 42S–4PAB–	
		Ø 24	1/2	A	C	ZP 42FS4PAC–	
		Ø 24	1/3	A	B	ZP 44S–4PAB–	
		Ø 24	1/3	A	C	ZP 44FS4PAC–	
		Ø 24	1/1	A	B – C	ZP 41—4PABC	
		Ø 24	1/2	A	B – C	ZP 43—4PABC	
		Ø 24	1/3	A	B – C	ZP 45—4PABC	

DETERMINATION DU RENVOI A EMPLOYER

CONSIGNES DONNEES TECHNIQUES

Lors de la détermination du renvoi à utiliser il faut tenir compte non seulement des exigences purement techniques des puissances en fonction du nombre de tours et des couples à transmettre, mais aussi de beaucoup de facteurs: supplémentaires cycle de fonctionnement (intermittent, constant, etc. etc.), charges radiales et axiales à la charge de l'extrémité des arbres, températures maxi et mini, environnement (poussiéreux, etc. etc.), type de lubrifiant.

1) Déterminer le facteur de service FS indiqué au tableau 2.

2) Calculer la puissance nominale
Pn = Puissance effective Pe x Fs.

3) Avec la vitesse en sortie et la puissance effective Pn choisir au tableau 3 la dimension et le rapport du renvoi à commander.

4) Contrôler que les charges radiales Fr et axiales Fa, appliquées au centre de la saillie de chaque arbre ou au centre de la rainure, ne dépassent pas les valeurs reportées au tableau 4.

5) Vérifier que la température de service ne dépasse pas les valeurs de -20°C ÷ +80°C.

6) Dans le cas de rapport 1/2 ou 1/3 ne pas utiliser le renvoi en multiplicateur, en entrant plus de 750 tours/1' dans le rapport 1:2 et 500 tours/1' dans le rapport 1:3.

7) En présence de milieux particulièrement poussiéreux et par conséquent abrasifs éviter l'exposition directe du déflecteur d'huile, afin de le préserver et de lui autoriser une durée plus grande.

HOW TO SELECT THE CORRECT RIGHT-ANGLE BEVEL GEAR DRIVE FOR YOUR APPLICATION

TECHNICAL NOTES

Selecting the correct type of angle bevel gear is not simply a question of defining the power required in relation to R.P.M. and the torque to be transmitted. It also involves defining the conditions under which the angle bevel gear will be used. Defining operating conditions involves taking into consideration a number of factor such as the type of operating cycle (intermittent, continuous), radial and axial loads on the shaft ends, maximum and minimum temperatures, ambient conditions (e.g. dust and dirt levels) and the type of lubrificant used. To decide the type and size of angle bevel gear required, proceed as follows.

1) Use Table 2 to define the Service Factor for your application.

2) Calculate the Rated Power (Pn);
Pn = Pe (Horsepower) x FS.

3) On Table 3, use the output speed and the rated power (Pn) to select the angle gear size and transmission ratio required for your application.

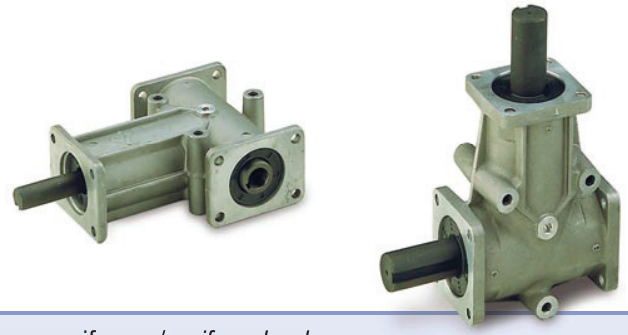
4) Check that the radial Fr and axial Fa loads applied at the centre of the protusion of every single shaft or at the centre of the hollow shaft does not exeed the values shown in table 4.

5) Check that the operating temperature does not exceed -20°C ÷ +80°C.

6) If you require a 1/2 or 1/3 ratio, do not use a speed multiplier with an input more than 750 R.P.M. and 500 R.P.M. in ratio 1/2 and 1/3, respectively.

7) If the unit is to be used in very dusty conditions, protect the oil seal against direct exposure to dust to prevent abrasive damage which might shorten the working life of the unit.

TABLEAU 2 FACTEUR DE SERVICE
TABLE 2 *SERVICE FACTOR FS*



	heures de fonctionnement par jour load *hours of operation per day*			
	3	8	12	24
charge uniforme / *uniform load*	0.7	0.9	1	1.3
charge avec des chocs modérés / *load with moderate shocks*	0.9	1	1.3	1.8
charge avec des chocs importants / *load with shocks*	1.3	1.6	1.8	2.3

TABLEAU 3 / TABLE

PUISSANCES TRANSMISSIBLES (Pn) Moment de torsion maxi en sortie Mt (arbre entrée marqué A)

APPLICABLE POWERS (Pn) Max output torque Mt (input shaft sign A)

Vitesse de sortie / Output round		50 tours/min. 50 rpm		100 tours/min. 100 rpm		200 tours/min. 200 rpm		400 tours/min. 400 rpm		800 tours/min. 800 rpm		1400 tours/min. 1400 rpm		2000 tours/min. 2000 rpm		3000 tours/min. 3000 rpm	
Couple en sortie / Output torque		Mt	puissance power	Mt	puissance power	Mt	puissance power	Mt	puissance power	Mt	puissance power	Mt	puissance power	1400 rpm	puissance power	Mt	puissance power
Modèle / Model	Rapport / Ratio	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw
Dz 10 - Dz 11	R 1:1	4,7	0,02	3,9	0,04	3,3	0,07	2,8	0,12	2,3	0,19	2,0	0,30	1,8	0,39	1,7	0,53
Dz 600-61		7,6	0,04	6,4	0,07	5,4	0,11	4,5	0,19	3,8	0,32	3,3	0,49	3,0	0,63	2,7	0,86
Dz 150-01		8,0	0,04	6,8	0,07	5,7	0,12	4,8	0,20	4,0	0,34	3,5	0,51	3,2	0,67	2,9	0,91
Zp 10 - Zp 11		9,1	0,05	7,6	0,08	6,4	0,13	5,4	0,23	4,5	0,38	4,0	0,58	3,6	0,76	3,3	1,03
Dz 20 - Dz 21		16,5	0,09	13,9	0,15	11,7	0,24	9,8	0,41	8,2	0,69	7,2	1,05	6,6	1,37	5,9	1,86
Dz 200-01 - Dz 200-21 Dz 505-60 Dz 505-70 - Dz 201-01		27,5	0,14	23,1	0,24	19,4	0,41	16,3	0,68	13,7	1,15	12,0	1,75	10,9	2,29	9,9	3,10
Zp 211-3V Zp 211-4V		28,8	0,15	24,2	0,25	20,3	0,43	17,1	0,72	14,4	1,20	12,5	1,83	11,4	2,39	10,3	3,25
Zp 20 Zp 220-4V Zp 21 Zp 221-4V Dz 604-50		34,5	0,18	29,0	0,30	24,4	0,51	20,5	0,86	17,2	1,44	15,0	2,20	13,7	2,87	12,4	3,89
512-31		46,9	0,25	39,5	0,41	33,2	0,70	27,9	1,17	23,5	1,97	20,4	2,99	18,7	3,91	16,9	5,30
Dz 930-01 Dz 930-11		48,9	0,26	41,1	0,43	34,5	0,72	29,0	1,22	24,4	2,05	21,2	3,11	19,4	4,07	17,6	5,51
Dz 30 Dz 31 Dz 311		53,1	0,28	44,6	0,47	37,5	0,79	31,6	1,32	26,5	2,22	23,1	3,38	21,1	4,42	19,1	5,99
Zp 311		75,7	0,40	63,7	0,67	53,5	1,12	45,0	1,89	37,9	3,17	32,9	4,82	30,1	6,30	27,2	8,54
Dz 40 - Zp 30 Zp 40 - Dz 41 Zp 31 - Zp 41		87,3	0,46	73,4	0,77	61,8	1,29	51,9	2,17	43,7	3,66	38,0	5,56	34,7	7,27	31,4	9,86
Dz 50 - Dz 51		119,5	0,63	100,5	1,05	84,5	1,77	71,0	2,98	59,7	5,00	51,9	7,61	47,5	9,95	42,9	13,48
Dz 270		4229,5	22,14	3556,6	37,23	2990,7	62,62	2514,9	105,31	2114,7	177,11	1838,6	269,48	1681,8	352,13	1519,7	477,28
Dz 12 - Dz 13	R 1:2	4,0	0,02	3,4	0,04	2,8	0,06	2,4	0,10	2,0	0,17	1,7	0,26	1,6	0,33	1,4	0,45
Zp 12 - Zp 13		8,9	0,05	7,5	0,08	6,3	0,13	5,3	0,22	4,4	0,37	3,9	0,57	3,5	0,74	3,2	1,00
Dz 22 - Dz 23		14,6	0,08	12,3	0,13	10,3	0,22	8,7	0,36	7,3	0,61	6,3	0,93	5,8	1,21	5,2	1,65
Zp 213-3V Zp 213-4V		28,1	0,15	23,7	0,25	19,9	0,42	16,7	0,70	14,1	1,18	12,2	1,79	11,2	2,34	10,1	3,17
Zp 22 Zp 222-4V Zp 23 Zp 223-4V		33,8	0,18	28,5	0,30	23,9	0,50	20,1	0,84	16,9	1,42	14,7	2,16	13,5	2,82	12,2	3,82
Dz 32 - Dz 33		42,5	0,22	35,7	0,37	30,1	0,63	25,3	1,06	21,3	1,78	18,5	2,71	16,9	3,54	15,3	4,80
Zp 313		71,3	0,37	59,9	0,63	50,4	1,06	42,4	1,77	35,6	2,98	31,0	4,54	28,3	5,93	25,6	8,04
Dz 42 - Zp 32 Zp 42 - Dz 43 Zp 33 - Zp 43		82,3	0,43	69,2	0,72	58,2	1,22	48,9	2,05	41,1	3,44	35,8	5,24	32,7	6,85	29,6	9,28
Dz 52 - Dz 53		100,5	0,53	84,5	0,88	71,0	1,49	59,7	2,50	50,2	4,21	43,7	6,40	39,9	8,36	36,1	11,34
Zp 24 Zp 25 Zp 215-3V Zp 215-4V Zp 224-4V Zp 225-4V	R 1:3	27,5	0,14	23,1	0,24	19,4	0,41	16,3	0,68	13,7	1,15	12,0	1,75	10,9	2,29	9,9	3,10
Zp 34 Zp 35 Zp 315 Zp 44 Zp 45		63,4	0,33	53,3	0,56	44,9	0,94	37,7	1,58	31,7	2,66	27,6	4,04	25,2	5,28	22,8	7,16

VALEURS NON PREFERENTIELLES (Consulter le service technique) - *NON PREFERENTIAL VALUES (please contact our technical dept.)*

TABLEAU / TABLE 4	CHARGES EXTERNES APPLICABLES EN FONCTION DES VITESSES / *MAX RADIAL AND AXIAL LOAD RELATION R.P.M.*	Fr = force radiale / *Fr = radial load*	Fa = Force axiale / *Fa = axial load*

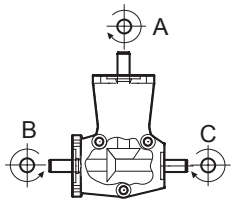
Vitesse de sortie / Output round		50 tours/min. 50 rpm		100 tours/min. 100 rpm		200 tours/min. 200 rpm		400 tours/min. 400 rpm		800 tours/min. 800 rpm		1400 tours/min. 1400 rpm		2000 tours/min. 2000 rpm		3000 tours/min. 3000 rpm	
Charges radiales – axiales / Radial - axial load		Fr	Fa	Fr	Fa	Fr	Fa	Fr	Fa	Fr	Fa	Fr	Fa	Fr	Fa	Fr	Fa
Modèle / Model	Rapport / Ratio	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Dz 10 - Dz 11	R 1:1	139	94	117	79	98	66	83	56	70	47	60	41	55	37	50	34
Dz 600-61		183	148	154	124	129	105	109	88	91	74	80	64	73	59	66	53
Dz 150-01		143	143	120	120	101	101	85	85	72	72	62	62	57	57	51	51
Zp 10 - Zp 11		195	158	164	133	138	112	116	94	98	79	85	69	78	63	70	57
Dz 20 - Dz 21		328	220	276	185	232	156	195	131	164	110	142	96	130	87	118	79
Dz 200-01 - Dz 200-21 Dz 505-60 Dz 505-70 - Dz 201-01		617	412	519	346	436	291	367	245	309	206	268	179	245	164	222	148
Zp 211-3V Zp 211-4V		430	348	361	293	304	246	256	207	215	174	187	151	171	139	154	125
Zp 20 Zp 220-4V Zp 21 Zp 221-4V Dz 604-50		516	418	434	351	365	295	307	248	258	209	224	182	205	166	185	150
512-31		512	362	431	304	362	256	305	215	256	181	223	157	204	144	184	130
Dz 930-01 Dz 930-11		470	331	395	278	332	234	279	197	235	165	204	144	187	132	169	119
Dz 30 Dz 31 Dz 311		684	458	575	385	484	324	407	273	342	229	297	199	272	182	246	165
Zp 311		826	554	695	465	584	391	491	329	413	277	359	241	329	220	297	199
Dz 40 - Zp 30 Zp 40 - Dz 41 Zp 31 - Zp 41		953	639	802	537	674	452	567	380	477	319	414	278	379	254	342	229
Dz 50 - Dz 51		1102	736	927	619	779	520	655	438	551	368	479	320	438	293	396	264
Dz 270		12837	10390	10795	8737	9077	7347	7633	6178	6419	5195	5581	4517	5105	4132	4613	3733
Dz 12 - Dz 13	R 1:2	107	76	90	64	76	54	64	45	54	38	47	33	43	30	39	27
Zp 12 - Zp 13		182	110	153	93	129	78	108	66	91	55	79	48	73	44	66	40
Dz 22 - Dz 23		276	168	232	141	195	119	164	100	138	84	120	73	110	67	99	60
Zp 213-3V Zp 213-4V		370	263	311	221	262	186	220	157	185	132	161	114	147	105	133	95
Zp 22 Zp 222-4V Zp 23 Zp 223-4V		445	316	374	266	315	224	265	188	223	158	194	137	177	126	160	114
Dz 32 - Dz 33		548	361	461	303	387	255	326	214	274	180	238	157	218	143	197	130
Zp 313		696	422	585	355	492	299	414	251	348	211	303	184	277	168	250	152
Dz 42 - Zp 32 Zp 42 - Dz 43 Zp 33 - Zp 43		803	483	675	406	568	341	478	287	402	241	349	210	319	192	289	173
Dz 52 - Dz 53		927	562	779	473	655	397	551	334	463	281	403	244	369	223	333	202
Zp 24 Zp 25 Zp 215-3V Zp 215-4V Zp 224-4V Zp 225-4V	R 1:3	357	199	301	167	253	141	213	118	179	99	155	86	142	79	128	71
Zp 34 Zp 35 Zp 315 Zp 44 Zp 45		619	346	521	291	438	245	368	206	310	173	269	151	246	138	222	124

VALEURS NON PREFERENTIELLES (Consulter le service technique) - *NON PREFERENTIAL VALUES (please contact our technical dept.)*

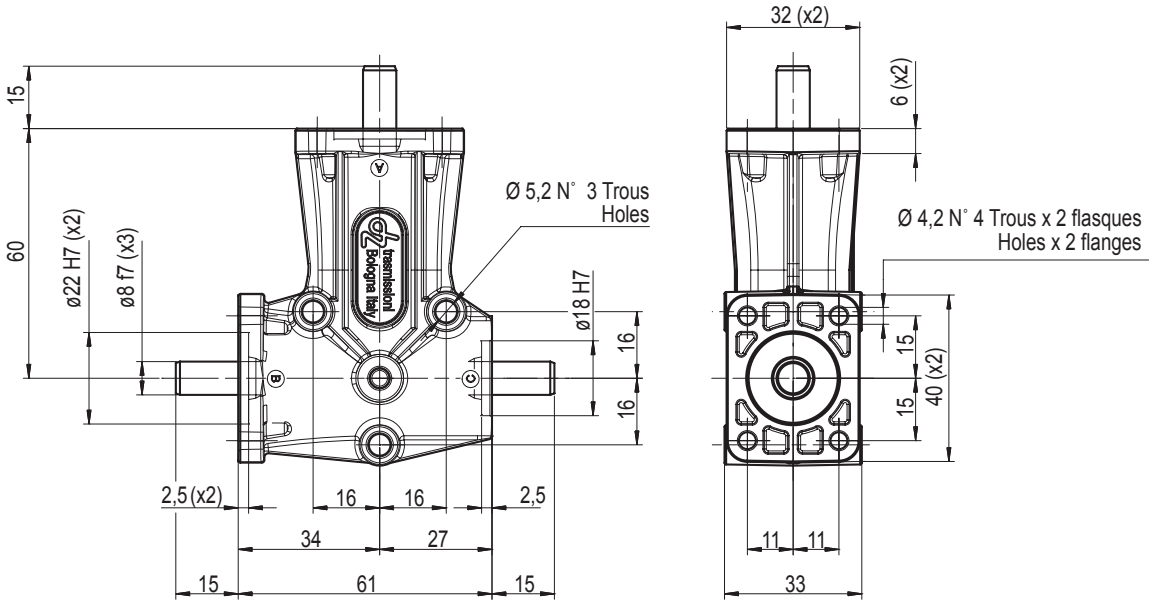
dz trasmissioni

Série / Series Dz

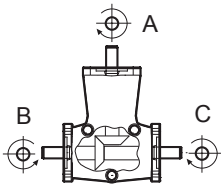
MOD.	DZ
TAILLE *SIZE*	1
FLASQUES *FLANGES*	2



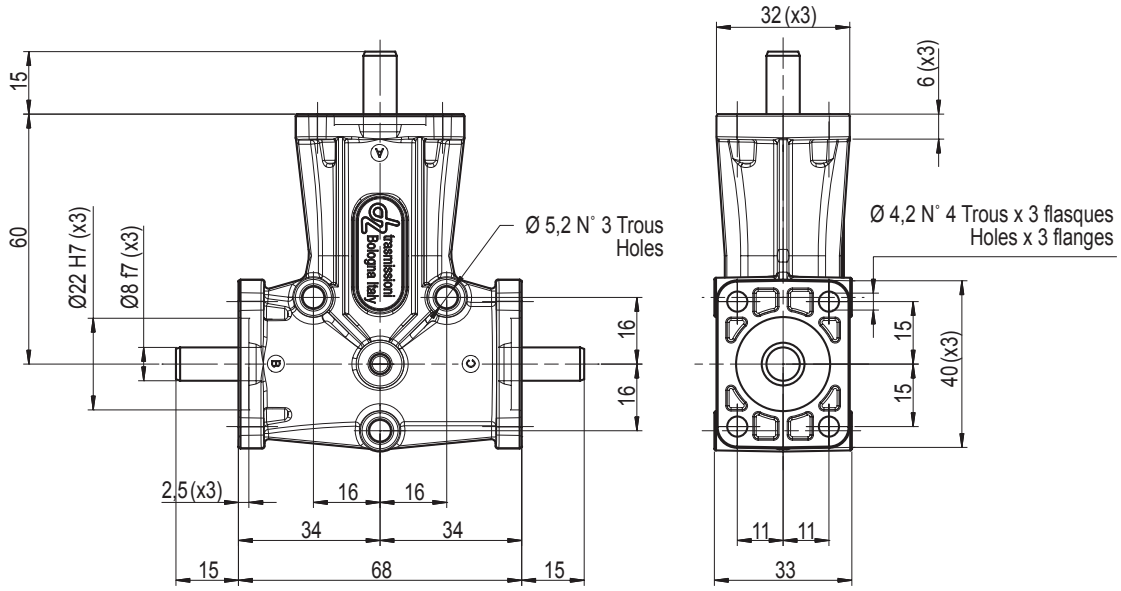
Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B	DZ 10S – 2FAB –	0.3 Kg
1/1	A	C	DZ 10FS2FAC –	
1/2	A	B	DZ 12S – 2FAB –	
1/2	A	C	DZ 12FS2FAC –	
1/1	A	B – C	DZ 11 – – 2FABC	
1/2	A	B – C	DZ 13 – – 2FABC	



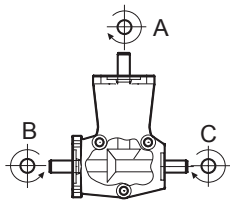
MOD.	DZ
TAILLE *SIZE*	1
FLASQUES *FLANGES*	3



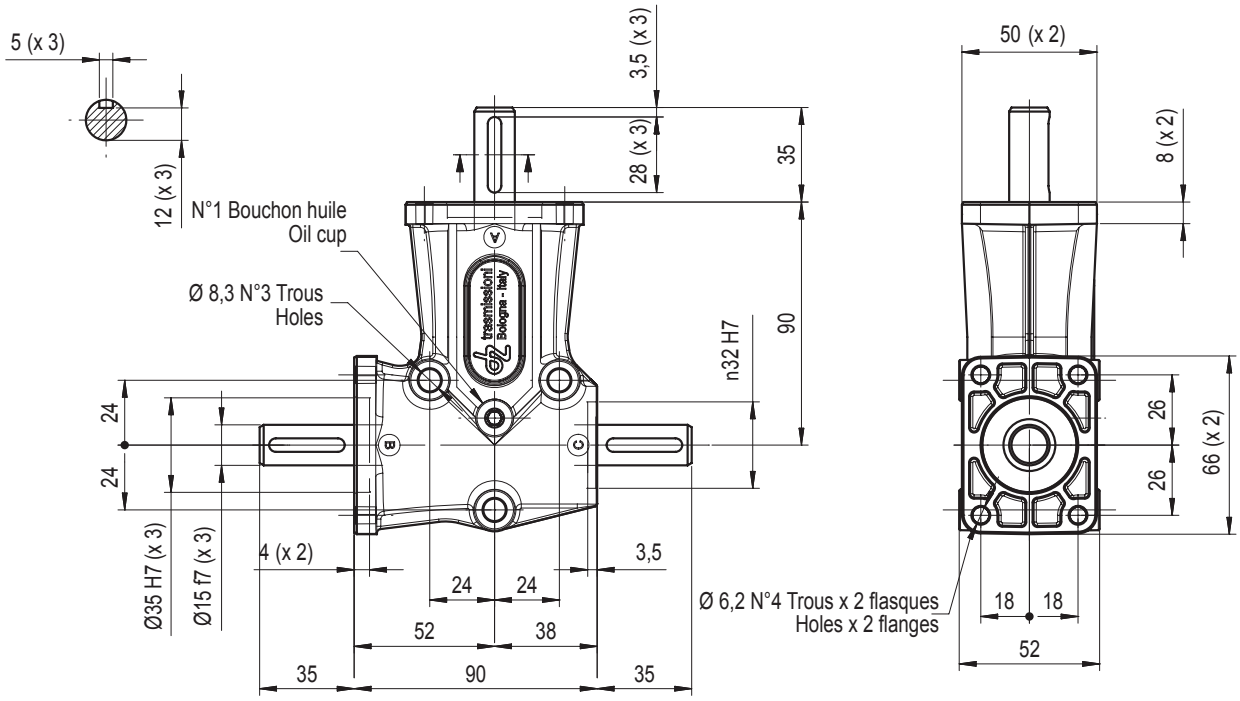
Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B	DZ 10S – 3FAB –	0.3 Kg
1/1	A	C	DZ 10FS3FAC –	
1/2	A	B	DZ 12S – 3 FAB –	
1/2	A	C	DZ 12FS3FAC –	
1/1	A	B – C	DZ 11 – – 3FABC	
1/2	A	B – C	DZ 13 – – 3FABC	



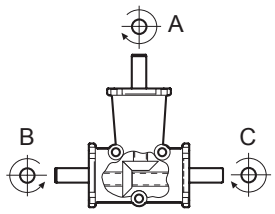
MOD.	DZ
TAILLE *SIZE*	2
FLASQUES *FLANGES*	2



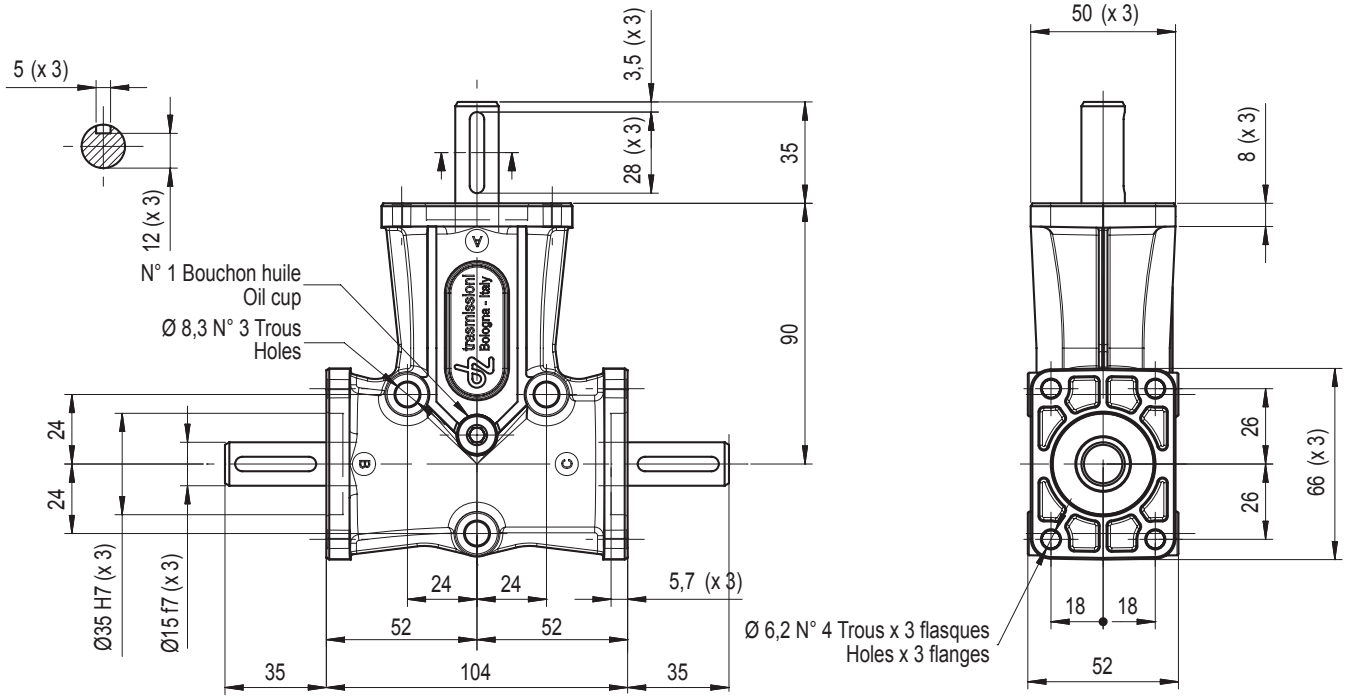
Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B	DZ 20S–2FAB–	1.1 Kg
1/1	A	C	DZ 20FS2FAC–	
1/2	A	B	DZ 22S–2FAB–	
1/2	A	C	DZ 22FS2FAC–	
1/1	A	B – C	DZ 21– –2FABC	1.2 Kg
1/2	A	B – C	DZ 23– –2FABC	



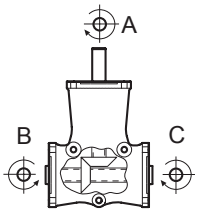
MOD.	DZ
TAILLE *SIZE*	2
FLASQUES *FLANGES*	3



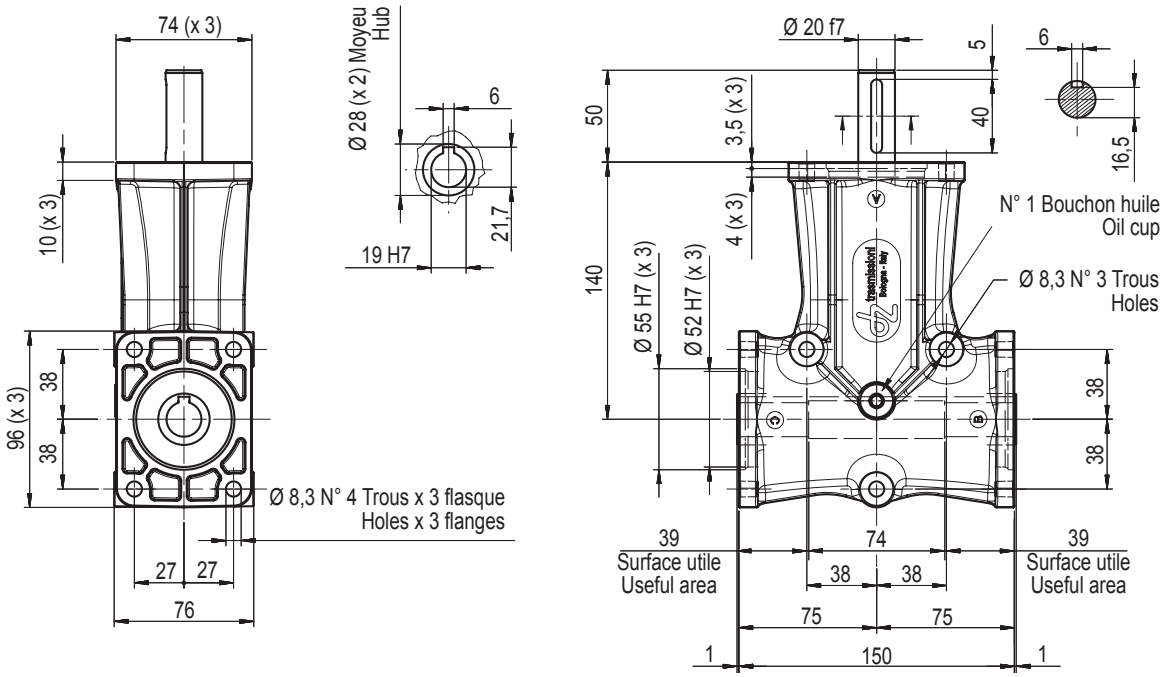
Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B	DZ 20S–3FAB–	1.1 Kg
1/1	A	C	DZ 20FS3FAC–	
1/2	A	B	DZ 22S–3FAB–	
1/2	A	C	DZ 22FS3FAC–	
1/1	A	B – C	DZ 21– –3FABC	1.2 Kg
1/2	A	B – C	DZ 23– –3FABC	



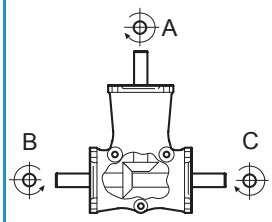
MOD.	DZ
TAILLE *SIZE*	3
ARBRE CREUX *HOLLOW SHAFT*	



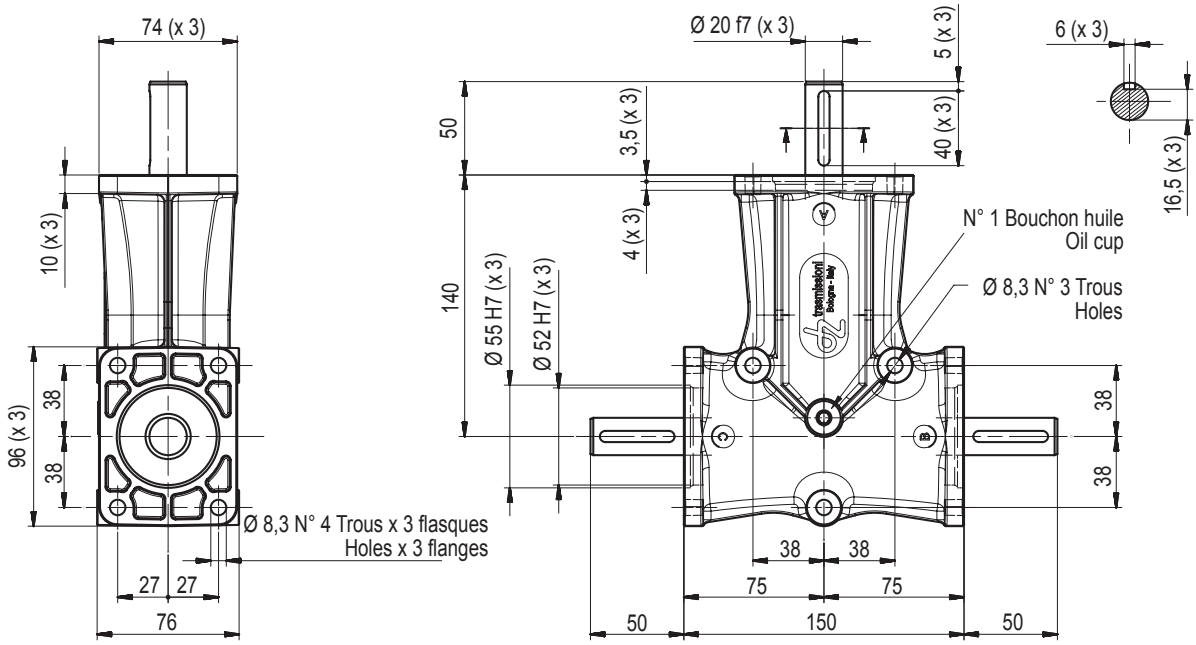
Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B-C	DZ 311–3FABC	3.3 Kg



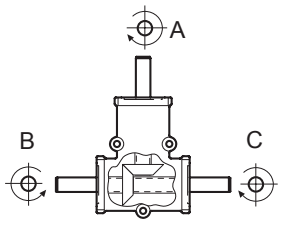
MOD.	DZ
TAILLE *SIZE*	3



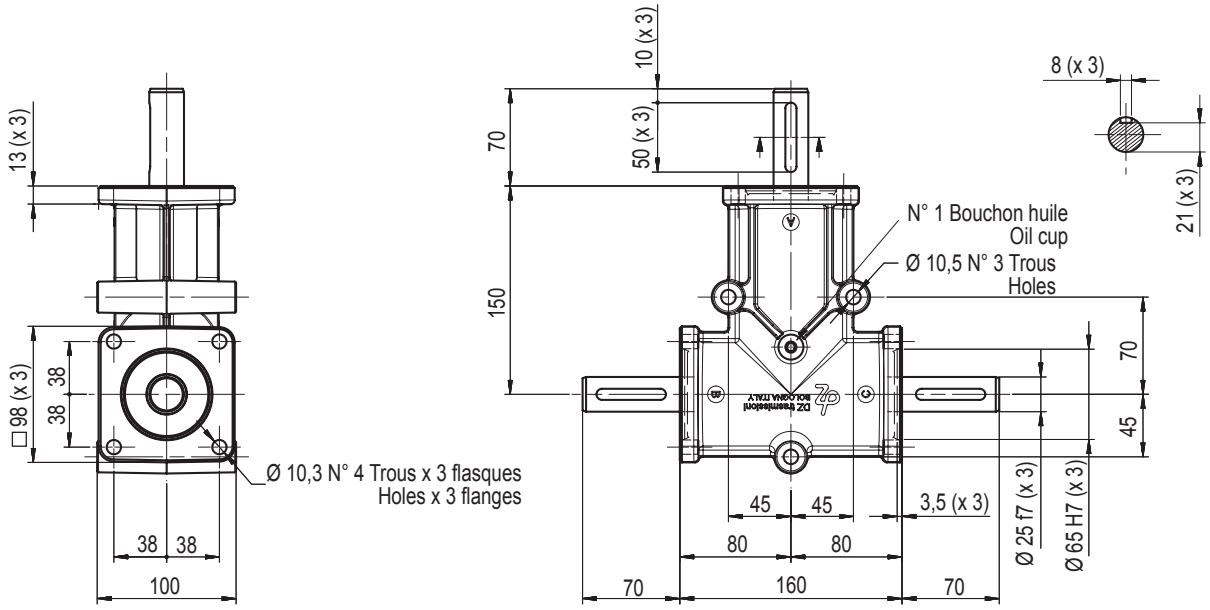
Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B	DZ 30S–3FAB–	3.4 Kg
1/1	A	C	DZ 30FS3FAC–	
1/2	A	B	DZ 32S–3FAB–	
1/2	A	C	DZ 32FS3FAC–	
1/1	A	B – C	DZ 31– –3FABC	3.5 Kg
1/2	A	B – C	DZ 33– –3FABC	



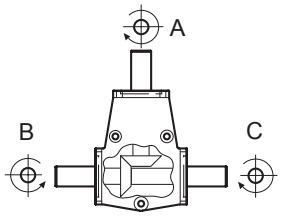
MOD.	DZ
TAILLE *SIZE*	4



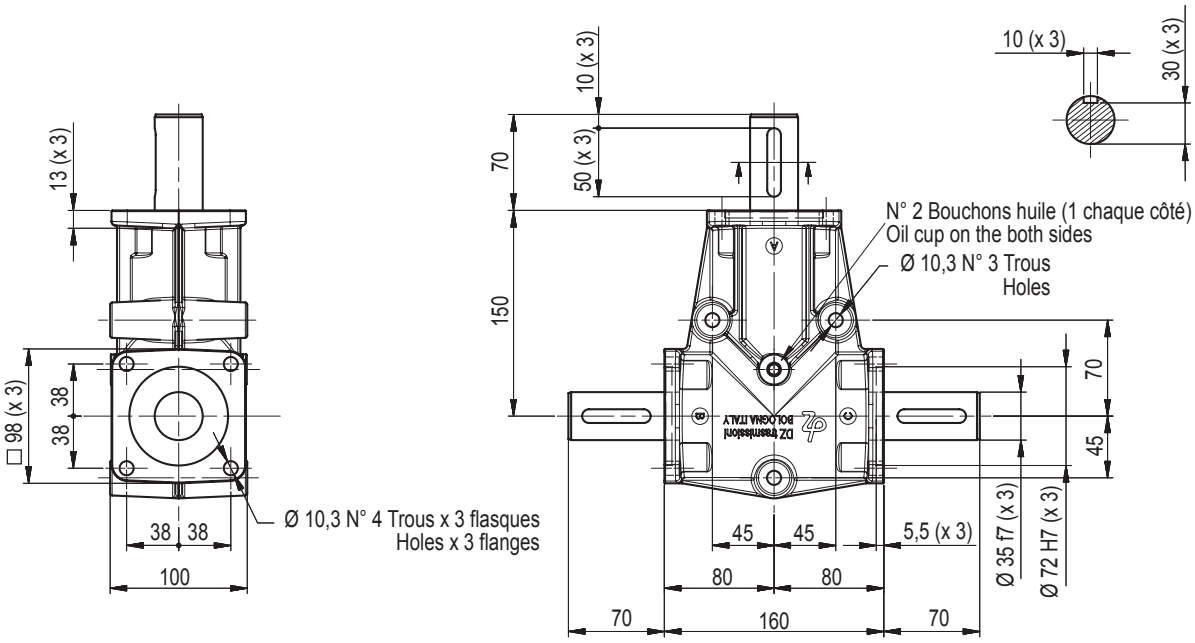
Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B	DZ 40S–3FAB–	5.5 Kg
1/1	A	C	DZ 40FS3FAC–	
1/2	A	B	DZ 42S–3FAB–	
1/2	A	C	DZ 42FS3FAC–	
1/1	A	B – C	DZ 41– –3FABC	5.8 Kg
1/2	A	B – C	DZ 43– –3FABC	



MOD.	DZ
TAILLE *SIZE*	5



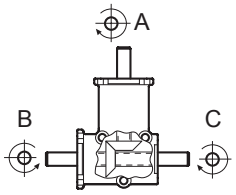
Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B	DZ 50S–3FAB–	8.1 Kg
1/1	A	C	DZ 50FS3FAC–	
1/2	A	B	DZ 52S–3FAB–	
1/2	A	C	DZ 52FS3FAC–	
1/1	A	B – C	DZ 51– –3FABC	8.8 Kg
1/2	A	B – C	DZ 53– –3FABC	



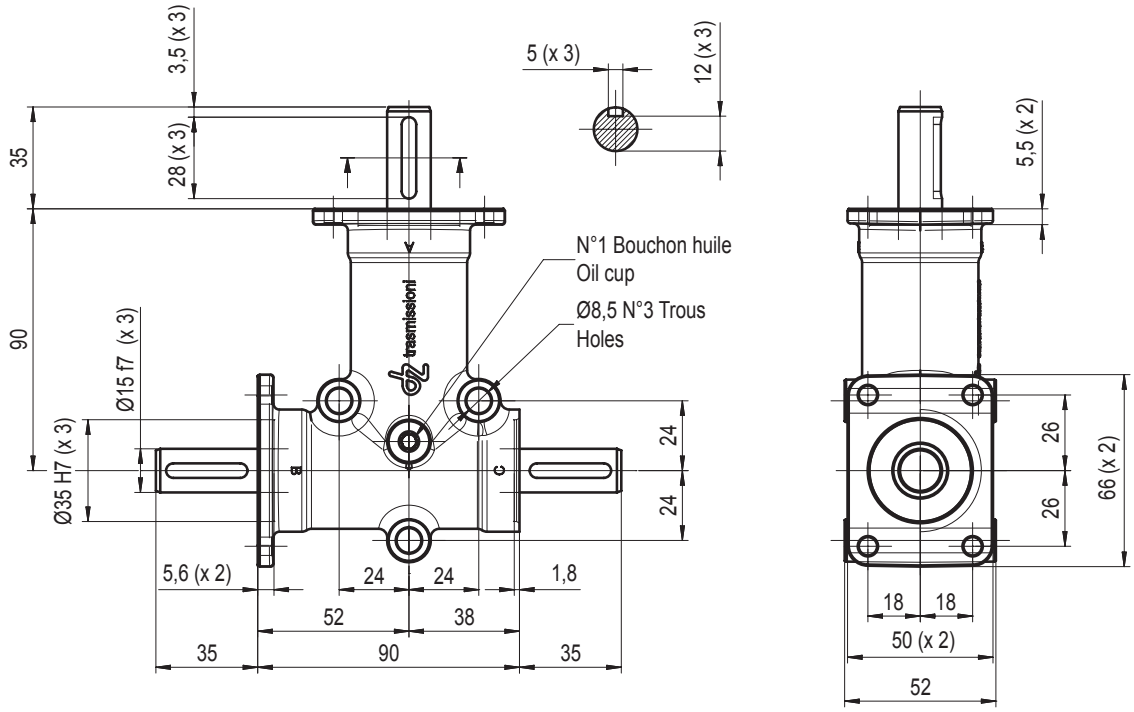
dz trasmissioni

Série Inox / Inox Series Dz

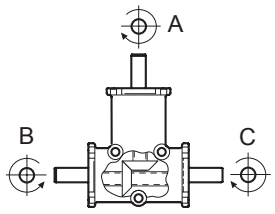
MOD.	DZ
TAILLE *SIZE*	2
FLASQUES *FLANGES*	2



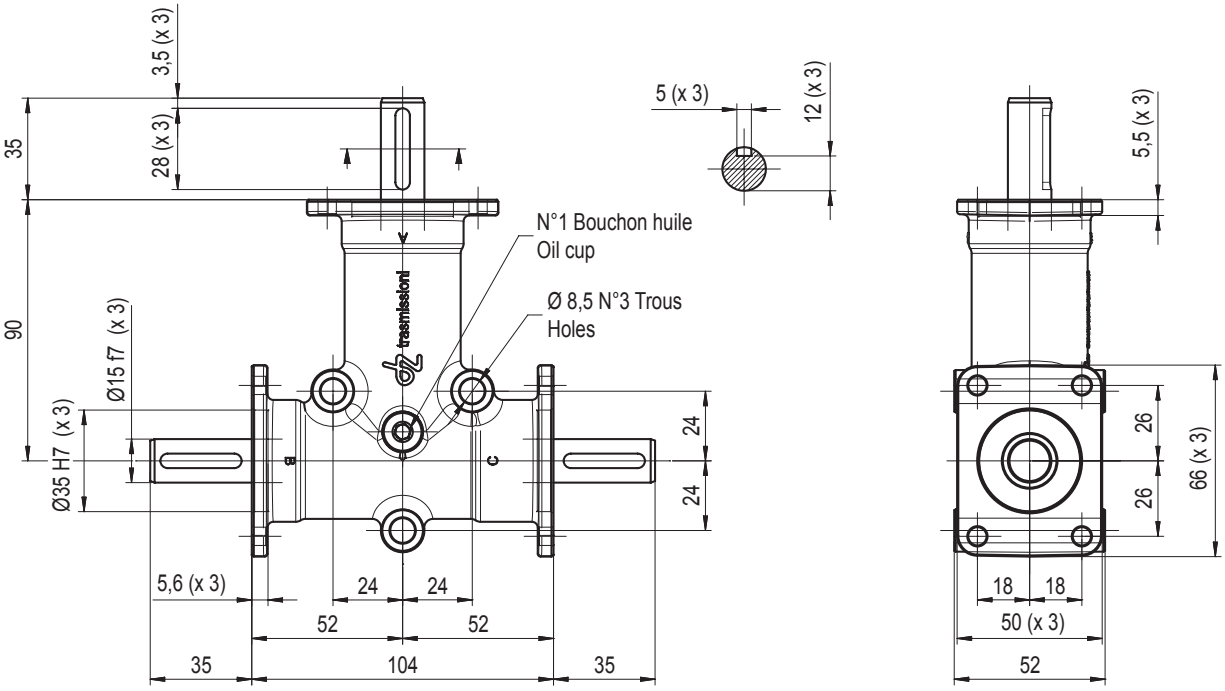
Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B	DZ 20S–2FAB–INOX	1.25 Kg
1/1	A	C	DZ 20FS2FAC–INOX	
1/2	A	B	DZ 22S–2FAB–INOX	
1/2	A	C	DZ 22FS2FAC–INOX	
1/1	A	B – C	DZ 21– –2FABC–INOX	1.35 Kg
1/2	A	B – C	DZ 23– –2FABC–INOX	



MOD.	DZ
TAILLE *SIZE*	2
FLASQUES *FLANGES*	3



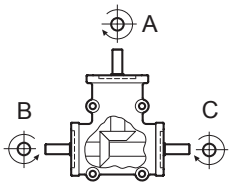
Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B	DZ 20S–3FAB–INOX	1.31 Kg
1/1	A	C	DZ 20FS3FAC–INOX	
1/2	A	B	DZ 22S–3FAB–INOX	
1/2	A	C	DZ 22FS3FAC–INOX	
1/1	A	B – C	DZ 21– –3FABC-INOX	1.41 Kg
1/2	A	B – C	DZ 23– –3FABC-INOX	



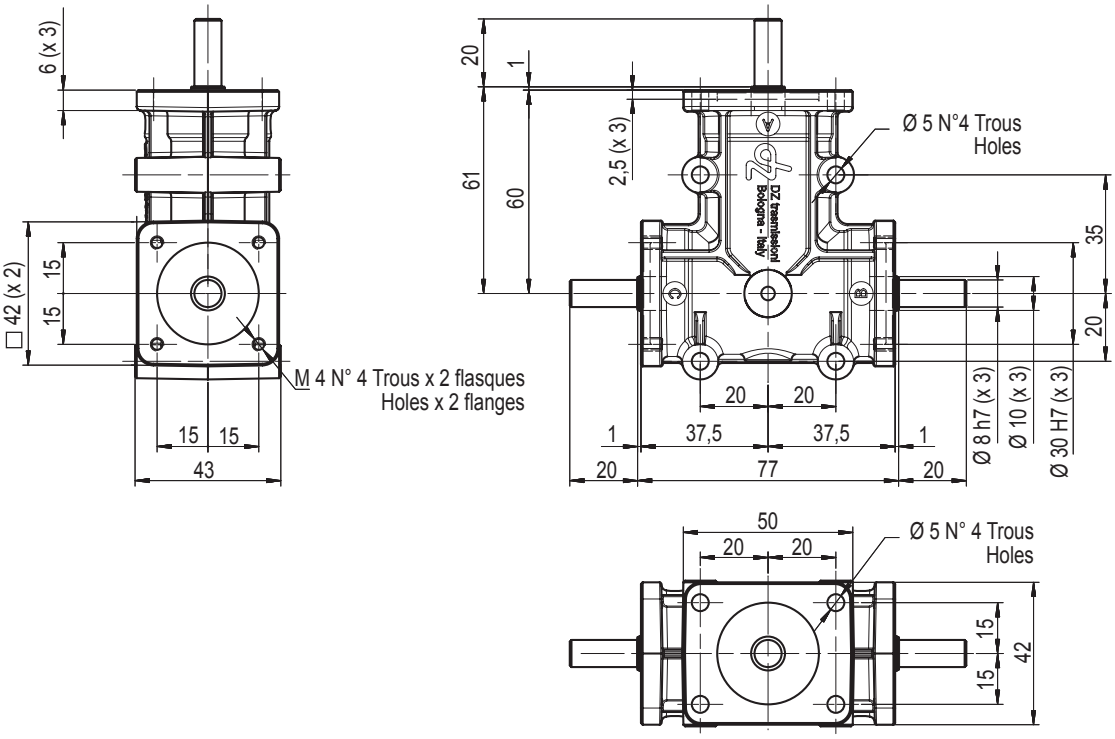
trasmissioni

Série / Series Zp

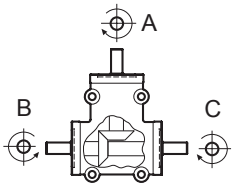
MOD.	ZP
TAILLE *SIZE*	1



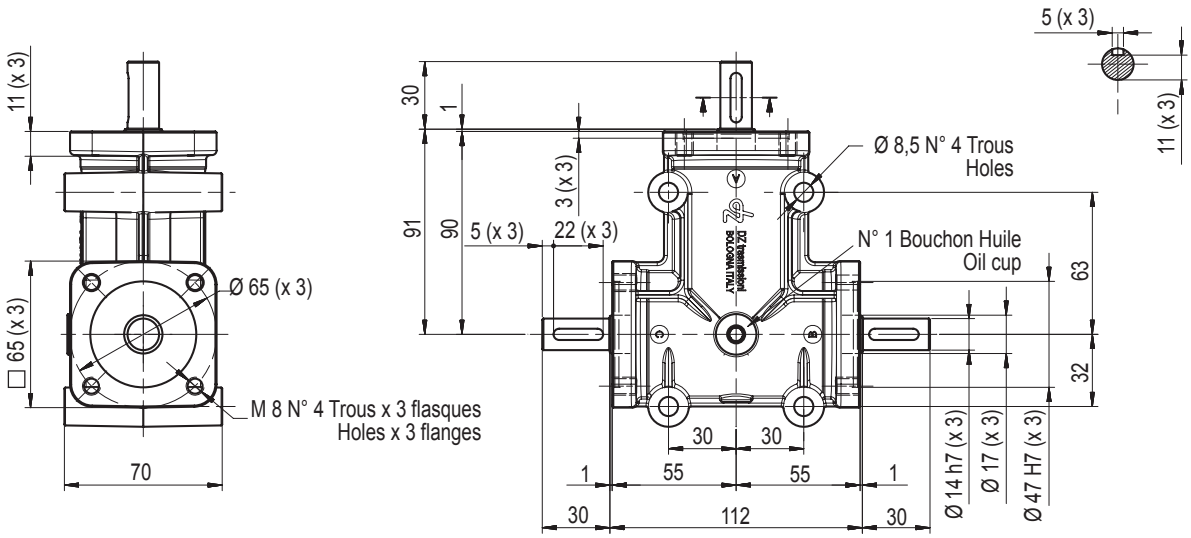
Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B	ZP 10S–4PAB–	0.6 Kg
1/1	A	C	ZP 10FS4PAC–	
1/2	A	B	ZP 12S–4PAB–	
1/2	A	C	ZP 12FS4PAC–	
1/1	A	B – C	ZP 11– –4PABC	
1/2	A	B – C	ZP 13– –4PABC	



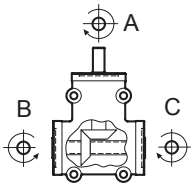
MOD.	ZP
TAILLE *SIZE*	2



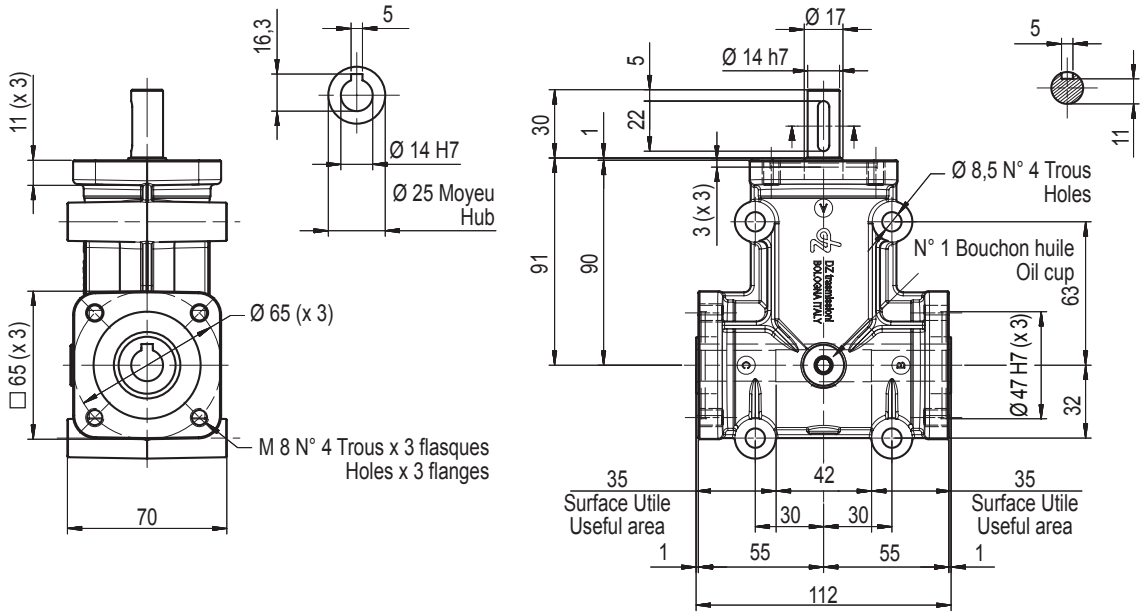
Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B	ZP 20S–4PAB–	2 Kg
1/1	A	C	ZP 20FS4PAC–	
1/2	A	B	ZP 22S–4PAB–	
1/2	A	C	ZP 22FS4PAC–	
1/3	A	B	ZP 24S–4PAB–	
1/3	A	C	ZP 24FS4PAC–	
1/1	A	B – C	ZP 21– –4PABC	
1/2	A	B – C	ZP 23– –4PABC	
1/3	A	B – C	ZP 25– –4PABC	



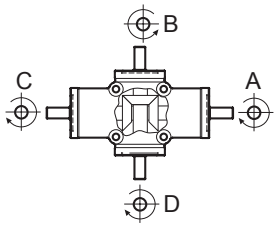
MOD.	ZP
TAILLE *SIZE*	2



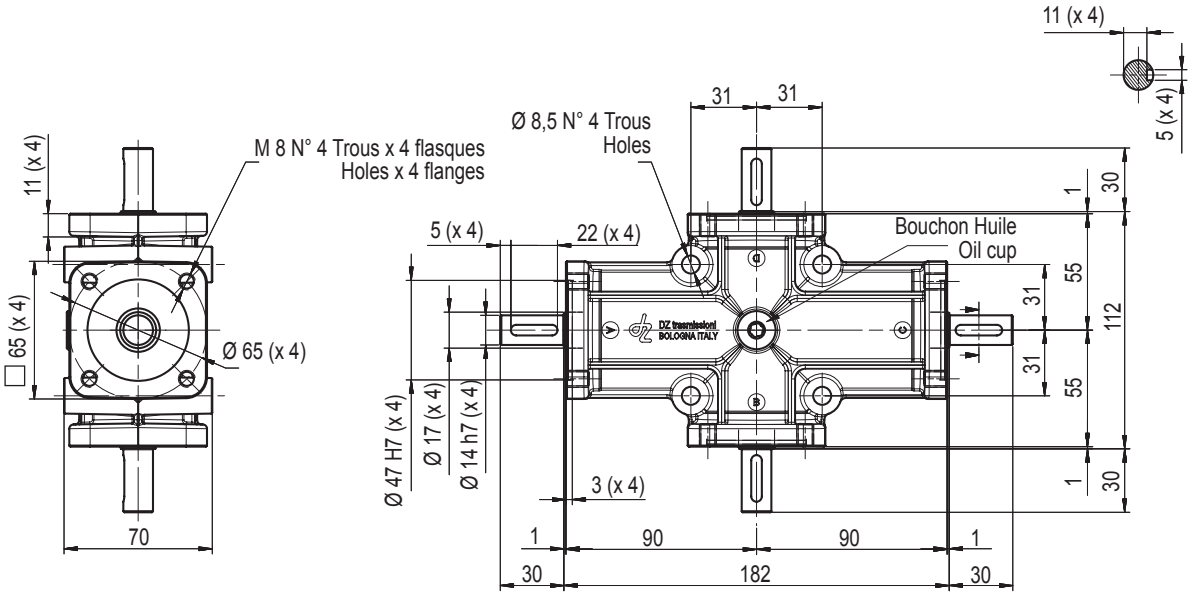
Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B – C	ZP 211–4P3V–	2 Kg
1/2	A	B – C	ZP 213–4P3V–	
1/3	A	B – C	ZP 215–4P3V–	



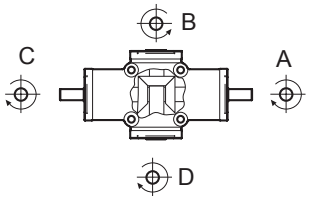
MOD.	ZP
TAILLE *SIZE*	2



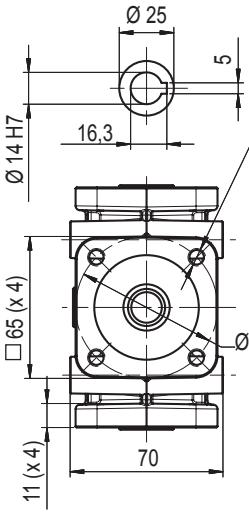
Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B - C	ZP 220S–4PABC	3.2 Kg
1/1	A	C - D	ZP 220FS4PACD	
1/2	A	B - C	ZP 222S–4PABC	
1/2	A	C - D	ZP 222FS4PACD	
1/3	A	B - C	ZP 224S–4PABC	
1/3	A	C - D	ZP 224FS4PACD	
1/1	A	B – C – D	ZP 221–4PABCD	
1/2	A	B – C – D	ZP 223–4PABCD	
1/3	A	B – C – D	ZP 225–4PABCD	

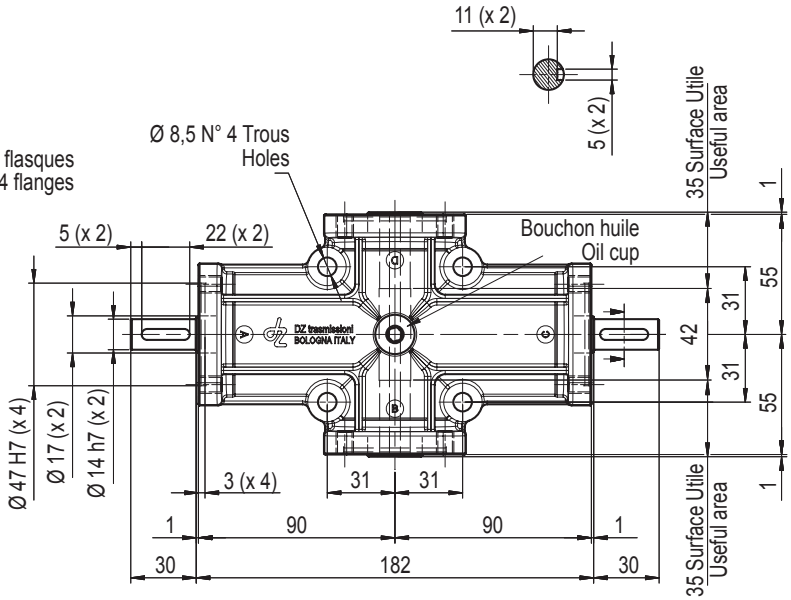


MOD.	ZP
TAILLE *SIZE*	2

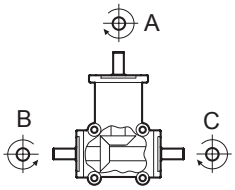


Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B – C – D	ZP 211–4P4V–	3 Kg
1/2	A	B – C – D	ZP 213–4P4V–	
1/3	A	B – C – D	ZP 215–4P4V–	

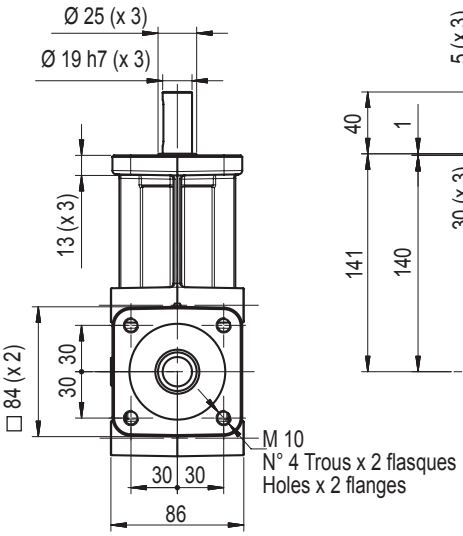


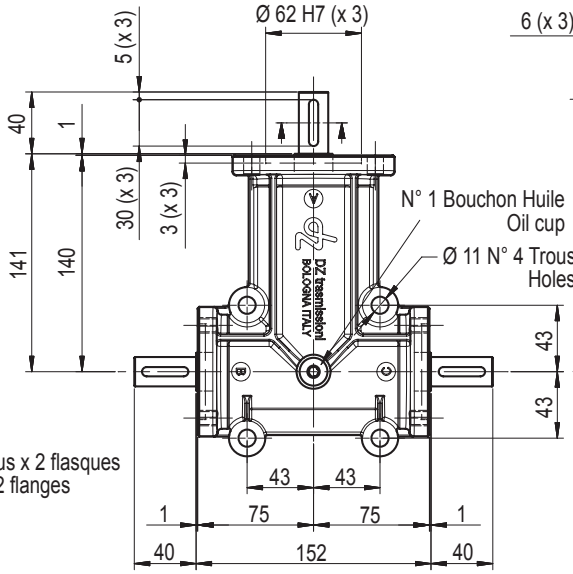


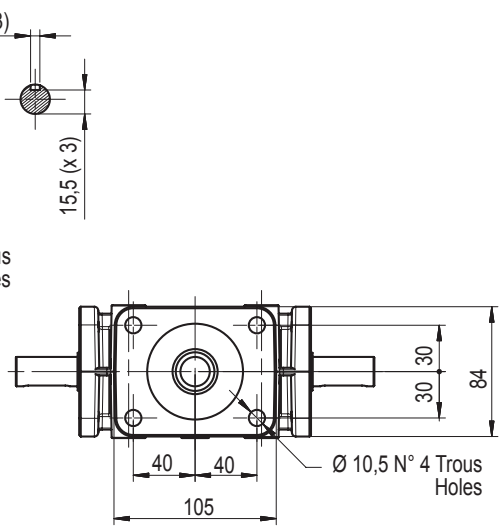
MOD.	ZP
TAILLE *SIZE*	3



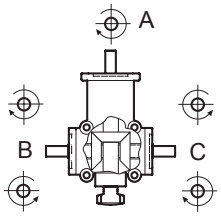
Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B	ZP 30S–4PAB–	4.5 Kg
1/1	A	C	ZP 30FS4PAC–	
1/2	A	B	ZP 32S–4PAB–	
1/2	A	C	ZP 32FS4PAC–	
1/3	A	B	ZP 34S–4PAB–	
1/3	A	C	ZP 34FS4PAC–	
1/1	A	B – C	ZP 31– –4PABC	
1/2	A	B – C	ZP 33– –4PABC	
1/3	A	B – C	ZP 35– –4PABC	



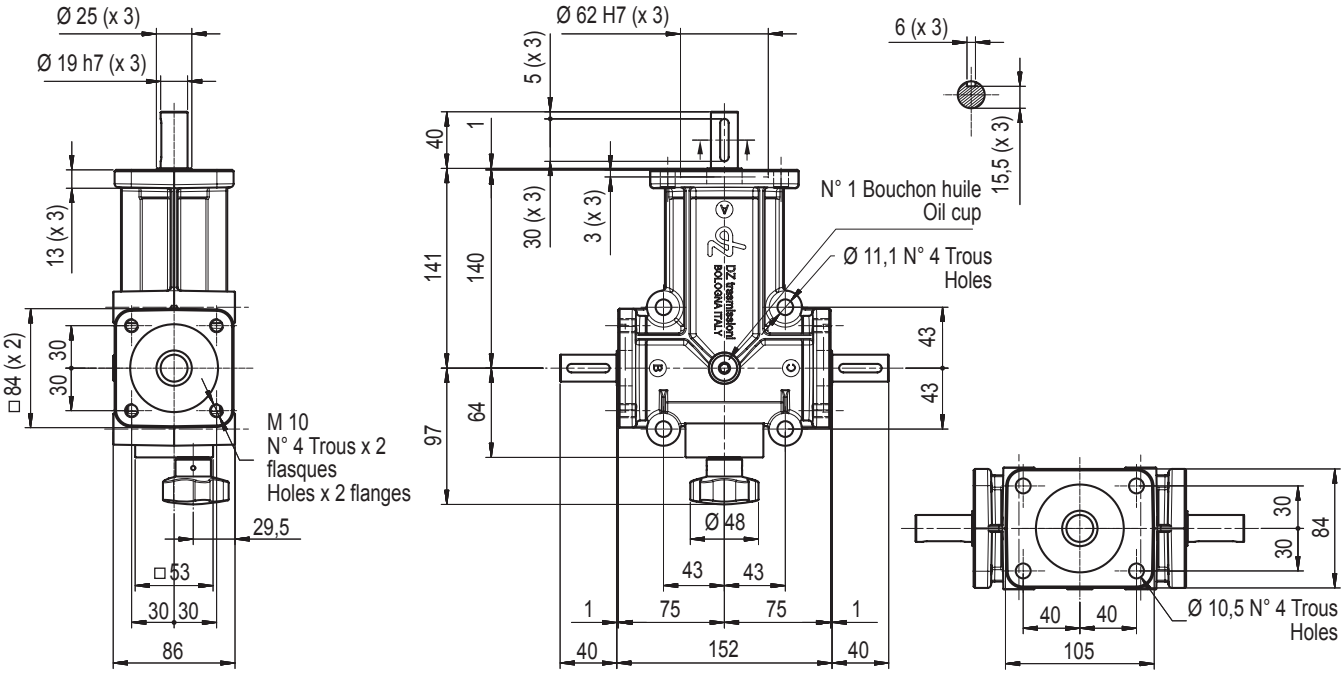




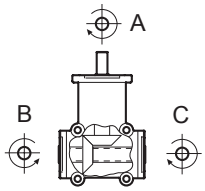
MOD.	ZP
TAILLE *SIZE*	3
INVERSEUR *REVERSER*	



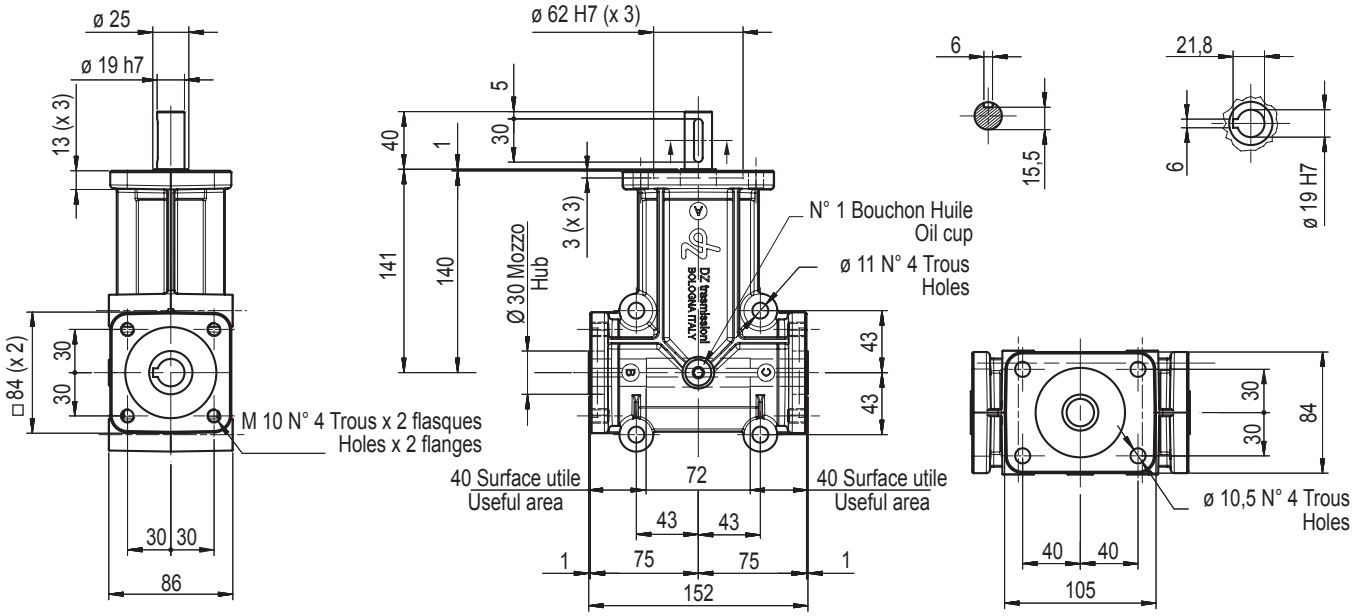
Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B	ZP 30 – INVERT	4.5 Kg
1/1	A	B – C	ZP 31 – INVERT	



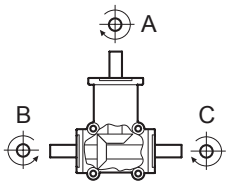
MOD.	ZP
TAILLE *SIZE*	3



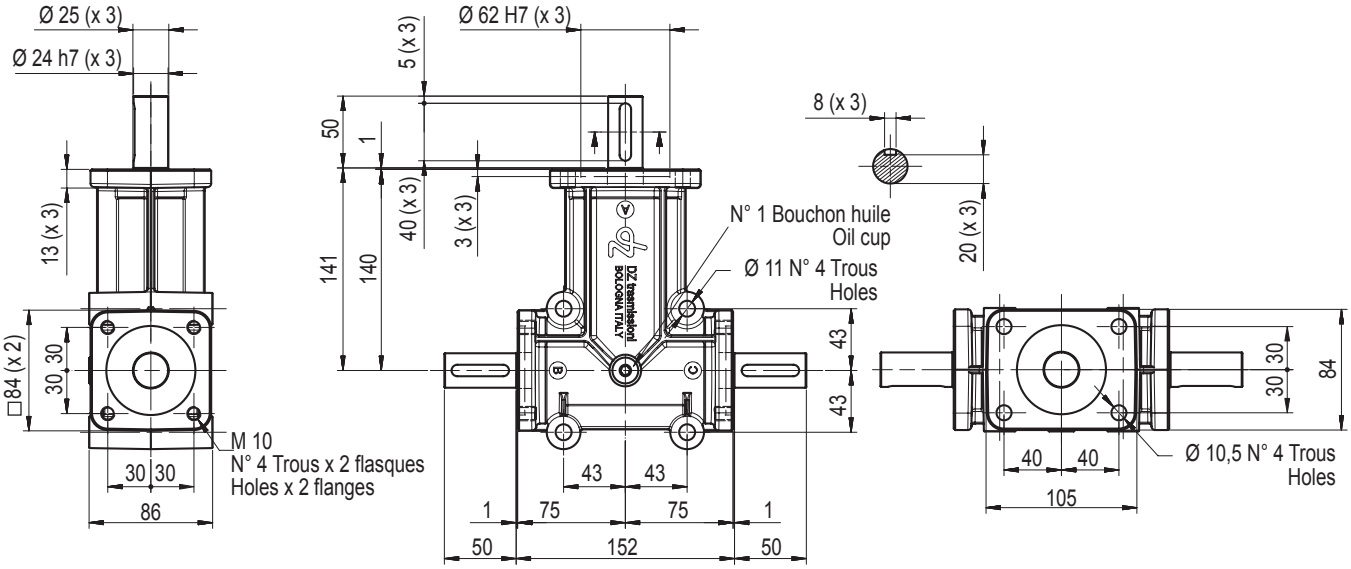
Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B – C	ZP 311 – 4P3V –	4.5 Kg
1/2	A	B – C	ZP 313 – 4P3V –	
1/3	A	B – C	ZP 315 – 4P3V –	



MOD.	ZP
TAILLE *SIZE*	4



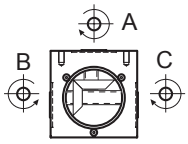
Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B	ZP 40S–4PAB–	4.5 Kg
1/1	A	C	ZP 40FS4PAC–	
1/2	A	B	ZP 42S–4PAB–	
1/2	A	C	ZP 42FS4PAC–	
1/3	A	B	ZP 44S–4PAB–	
1/3	A	C	ZP 44FS4PAC–	
1/1	A	B – C	ZP 41– –4PABC	
1/2	A	B – C	ZP 43– –4PABC	
1/3	A	B – C	ZP 45– –4PABC	



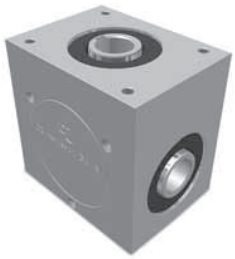
trasmissioni

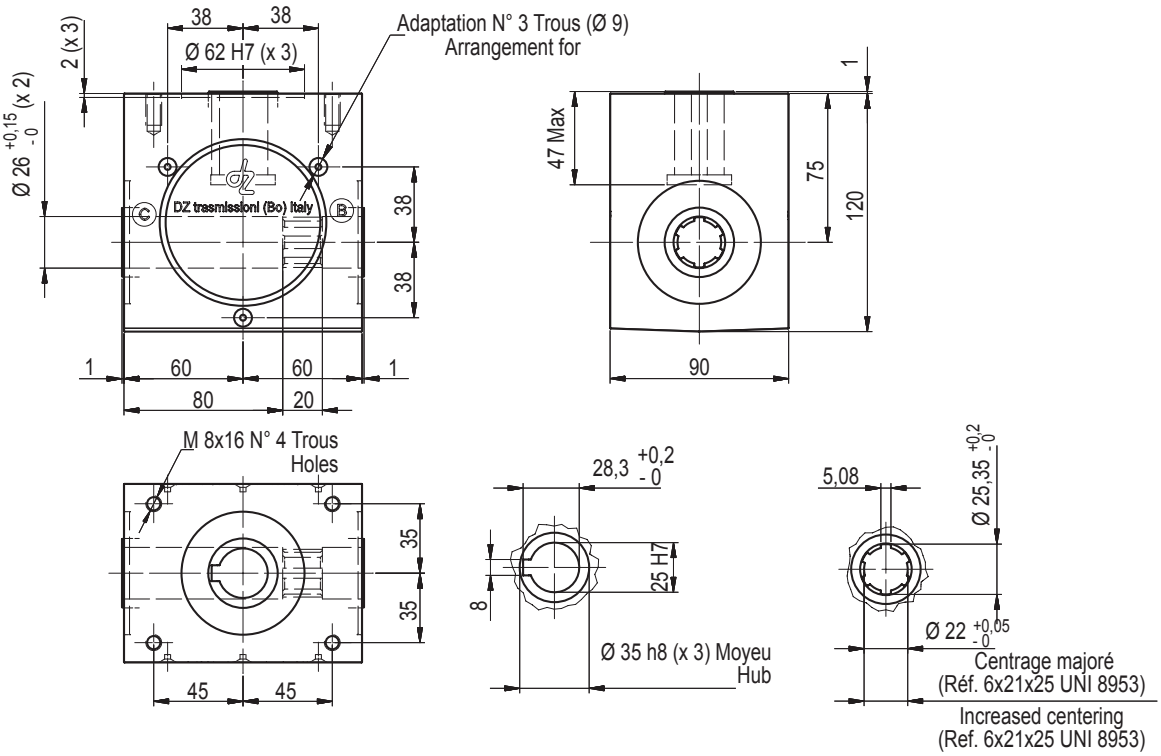
Série / Series
Spéciale / Special

MOD.	DZ
SERIE SPECIALE *SPECIAL*	

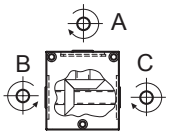


Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B – C	DZ 512 – 31	4.1 Kg



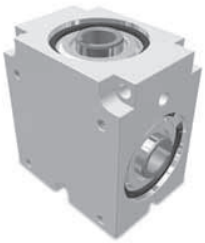


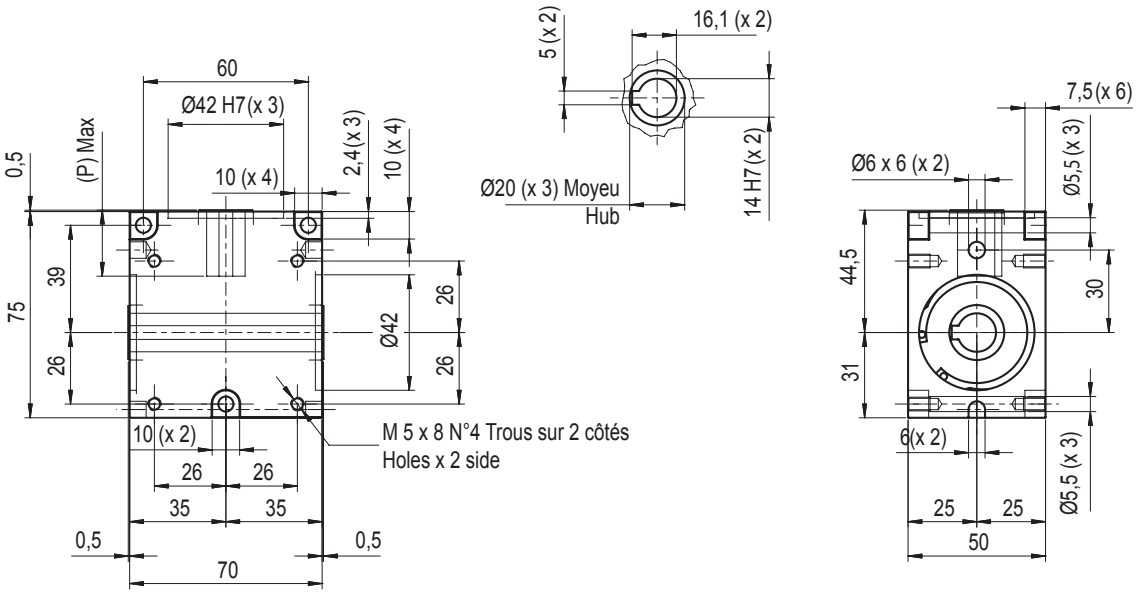
MOD.	DZ
SERIE SPECIALE *SPECIAL*	



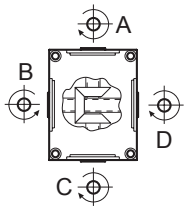
Rapp. *Ratio*	Entrée *In*	Sortie *Out*	P	Modèle *Model*	Poids *Weight*
1/1	A	B – C	24	DZ 505 – 60	0.7 Kg
1/1,5	A	B – C	16	DZ 505 – 51*	

*** Modèle sur commande / Model to order**



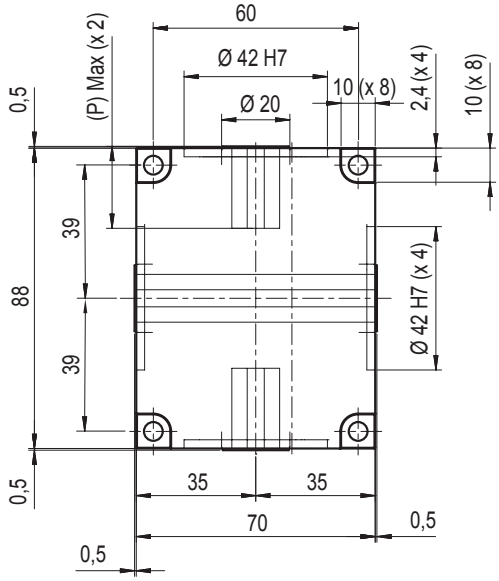


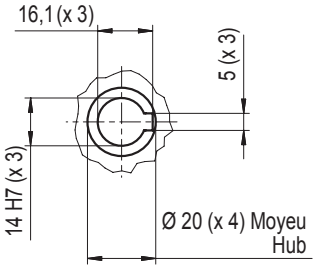
MOD.	DZ
SERIE SPECIALE *SPECIAL*	

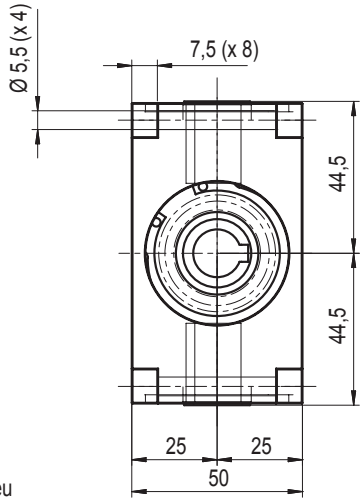


Rapp. *Ratio*	Entrée *In*	Sortie *Out*	P	Modèle *Model*	Poids *Weight*
1/1	A	B – C – D	24	DZ 505 – 70	1 Kg
1/1,5	A	B – C – D	16	DZ 505 – 71*	

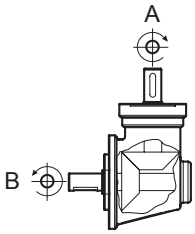
*** Modèle sur commande / Model to order**



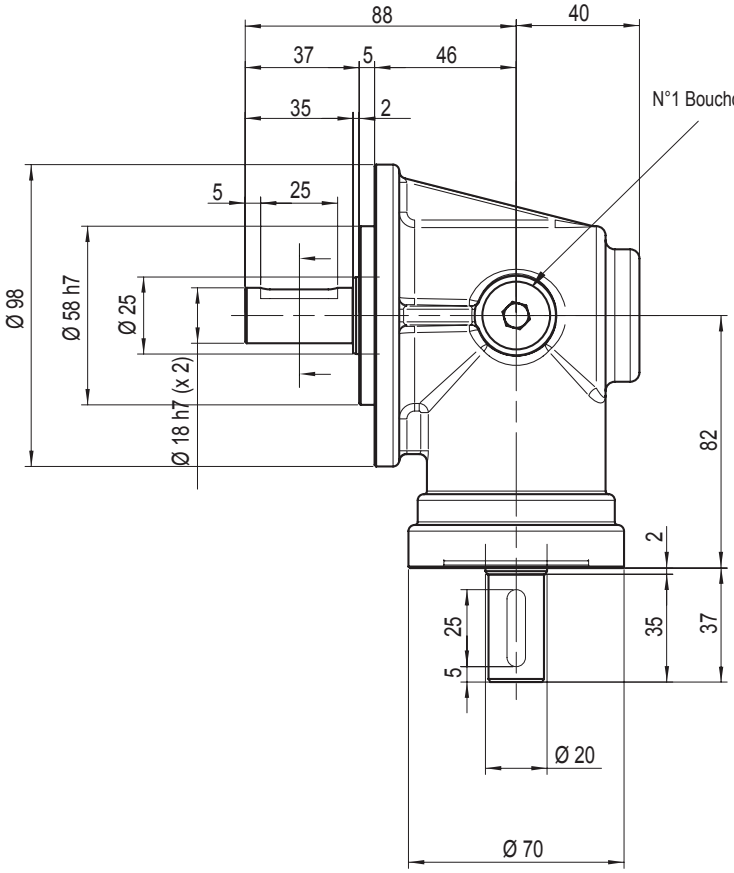


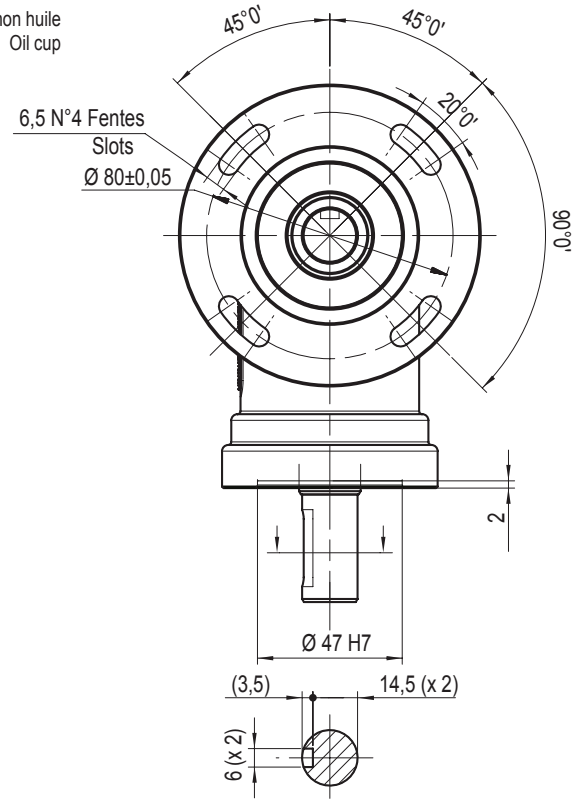


MOD.	DZ
SERIE SPECIALE *SPECIAL*	

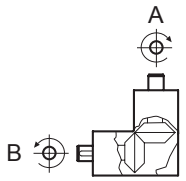


Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B	DZ 604 – 50	1,7 Kg

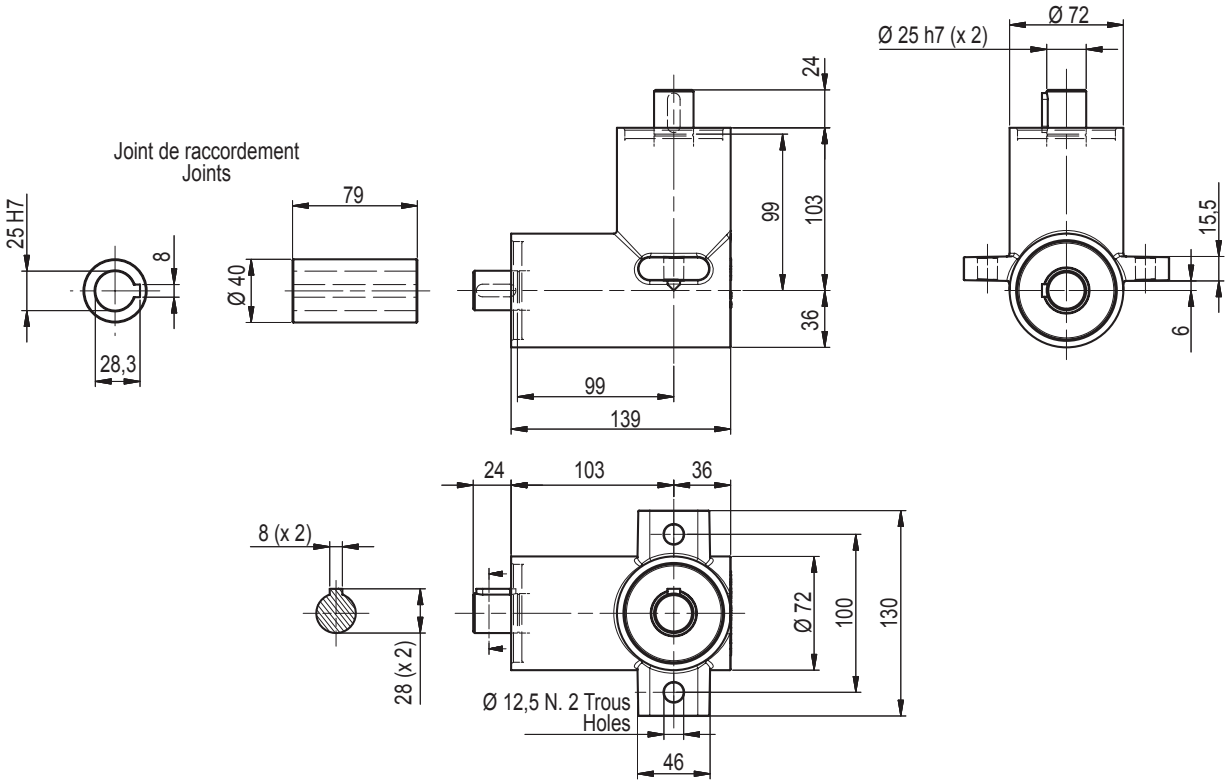




MOD.	DZ
SERIE SPECIALE *SPECIAL*	

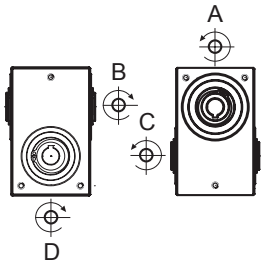


Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B	DZ 512 – 21	4.2 Kg

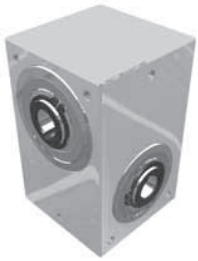


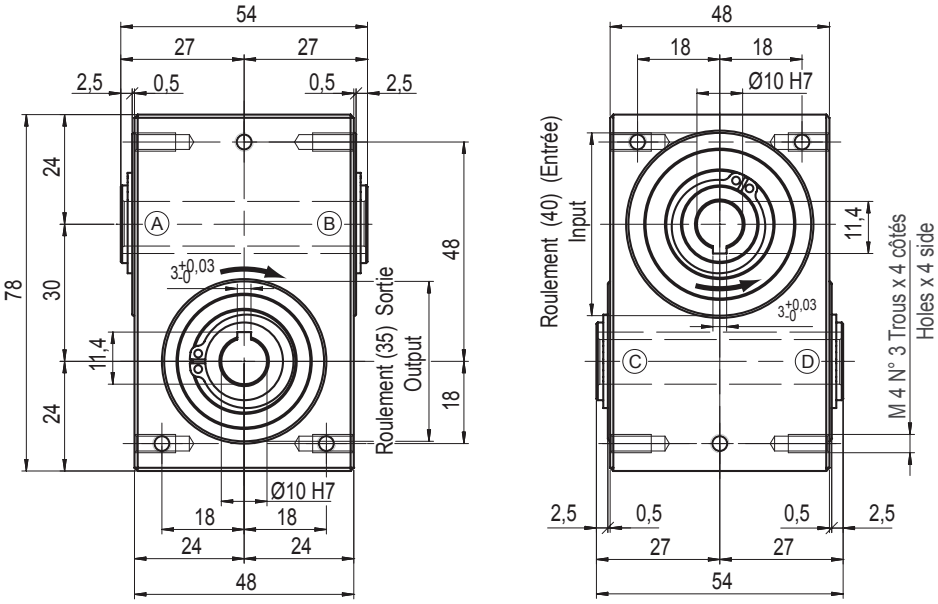
RENVOI ORTHOGONAL A ENGRENAGES CYLINDRIQUES - *ANGULAR IDLER WITH CYLINDRICAL GEARS*

MOD.	DZ
SERIE SPECIALE *SPECIAL*	

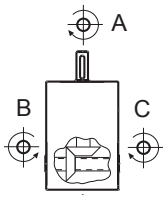


Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A - B	C - D	DZ 150 – 01	0,7 Kg

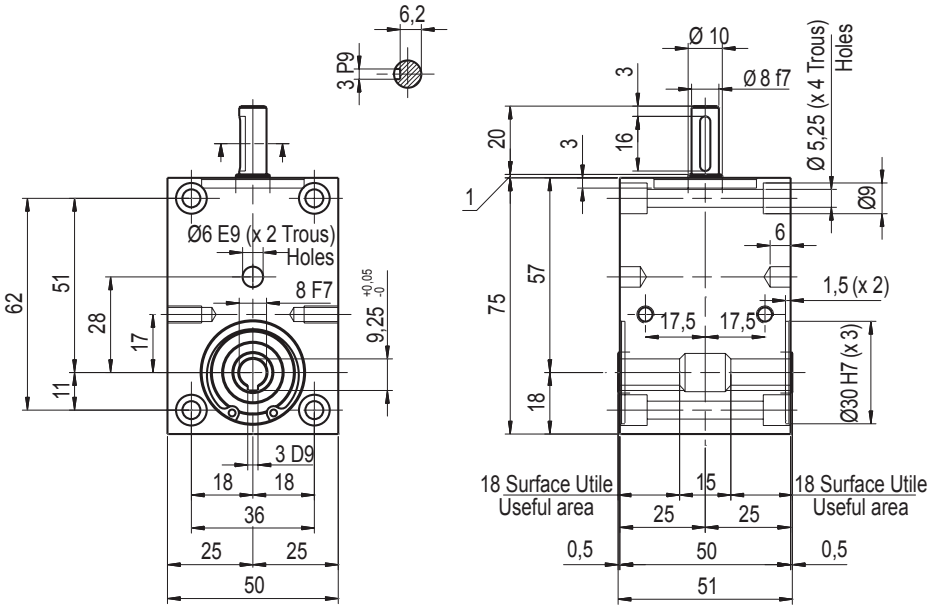




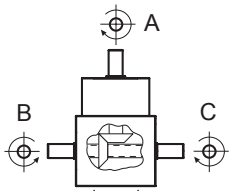
MOD.	DZ
SERIE SPECIALE *SPECIAL*	



Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B - C	DZ 600 – 61	1 Kg



MOD.	DZ
SERIE SPECIALE *SPECIAL*	

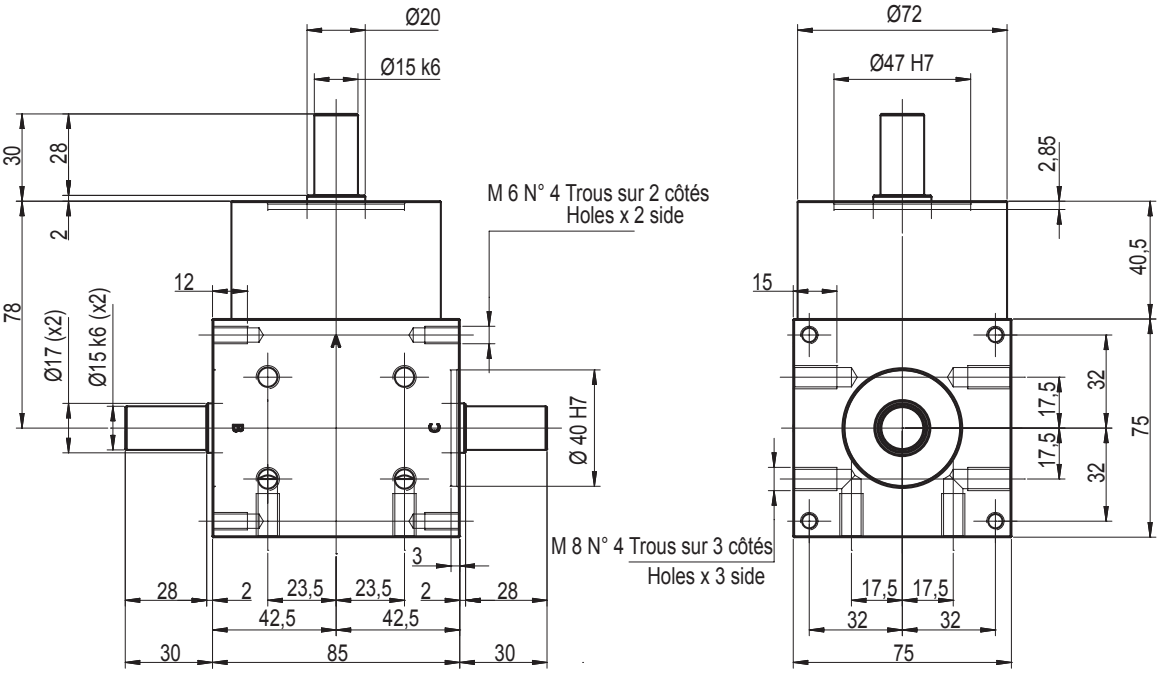


Modèle *Model*	Version *Version*			Rapp. *Ratio*	Poids *Weight*
DZ 201 – 01	AB	AC	ABC	1/1	2,4 Kg

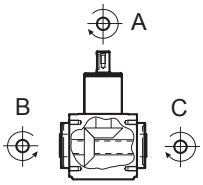
Autres rapports sur demande

Other ratios are available upon request

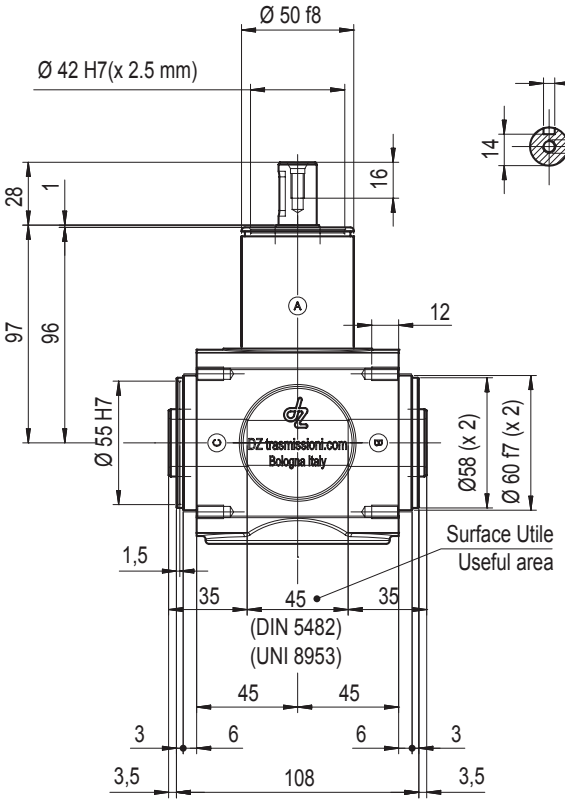
En cas de commandes indiquer: modèles - version (arbres présents) - rapport / *In case of order please state: model – version (shafts) – ratio*

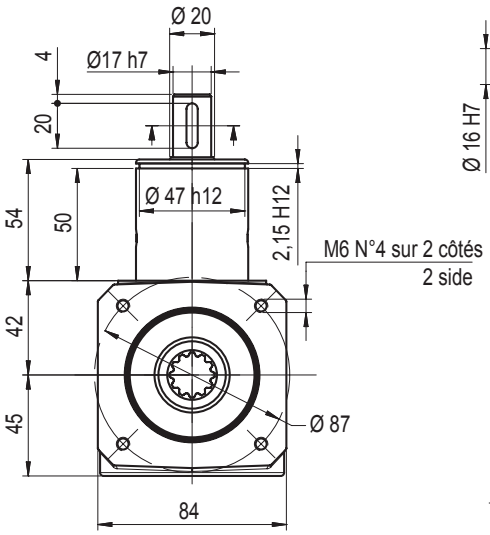


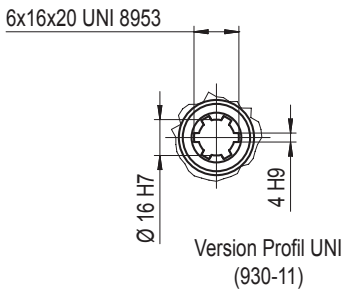
MOD.	DZ
SERIE SPECIALE *SPECIAL*	

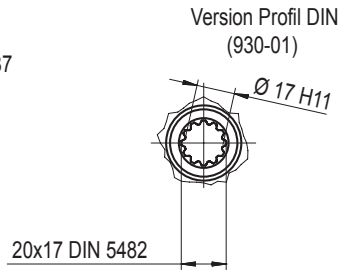


Rapp. *Ratio*	Entrée *In*	Sortie *Out*	Modèle *Model*	Poids *Weight*
1/1	A	B - C	DZ 930 – 01 (DIN)	4.2 Kg
1/1	A	B - C	DZ 930 – 11 (UNI)	

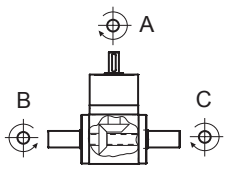








MOD.	DZ
SERIE SPECIALE *SPECIAL*	

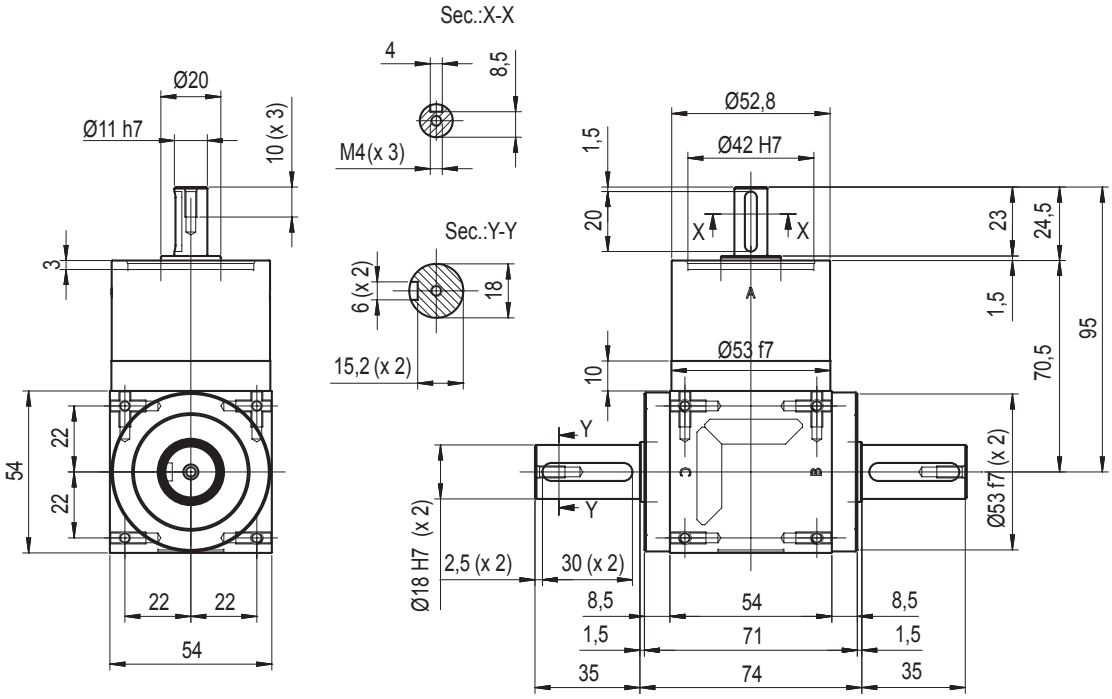


Modèle *Model*	Version *Version*			Rapp. *Ratio*	Poids *Weight*
DZ 200 – 21	AB	AC	ABC	1/1	1,1 Kg

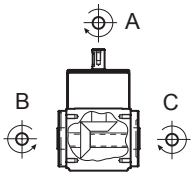
Autres rapports sur demande

Other ratios are available upon request

En cas de commandes indiquer: modèle - version (arbres présents) - rapport / *In case of order please state: model - version (shafts) - ratio*



MOD.	DZ
SERIE SPECIALE *SPECIAL*	

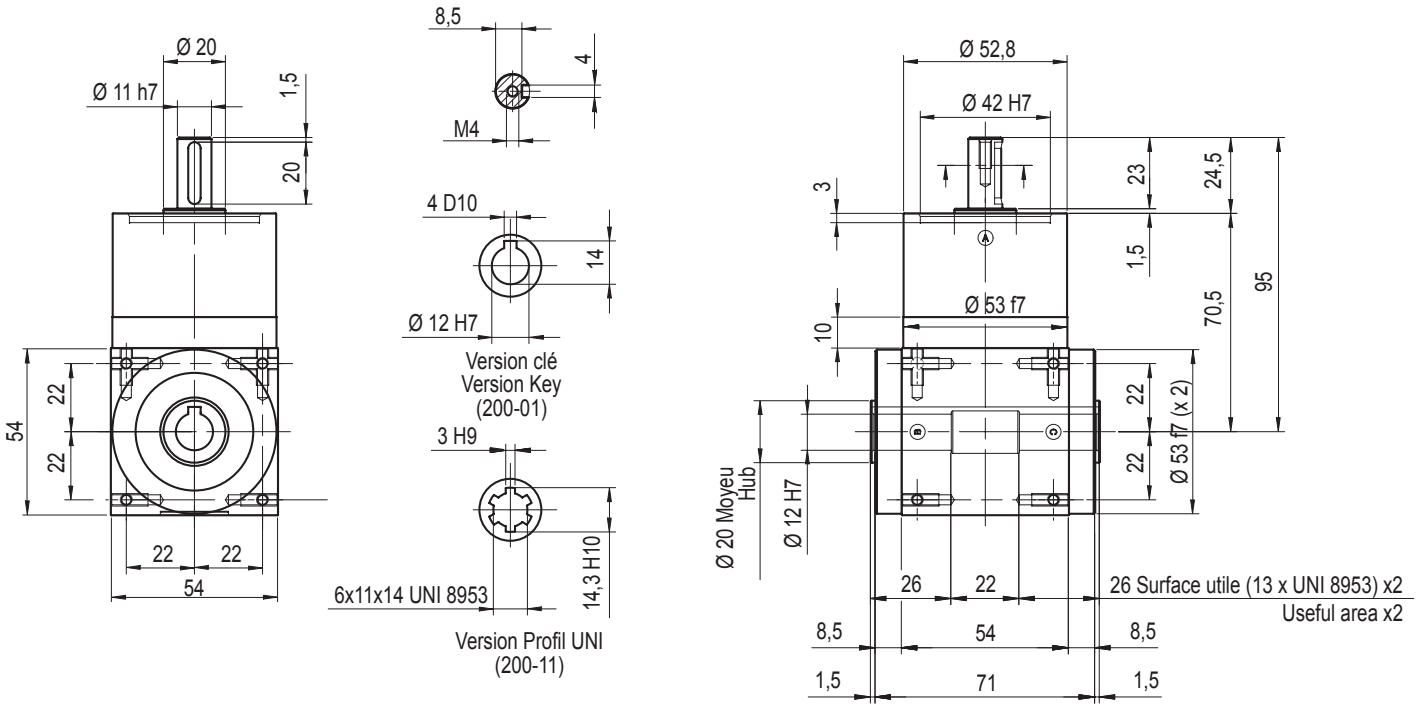


Modèle *Model*	Entrée *In*	Sortie *Out*	Rapp. *Ratio*	Poids *Weight*
DZ 200 – 01 (Clè / key)	A	B - C	1/1	1 Kg
DZ 200 – 11 (UNI)	A	B - C	1/1	

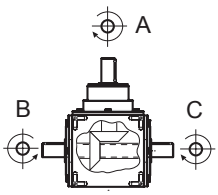
Autres rapports sur demande

Other ratios are available upon request

En cas de commandes indiquer: modèle - version (arbres présents) - rapport / *In case of order please state: model - version (shafts) – ratio*

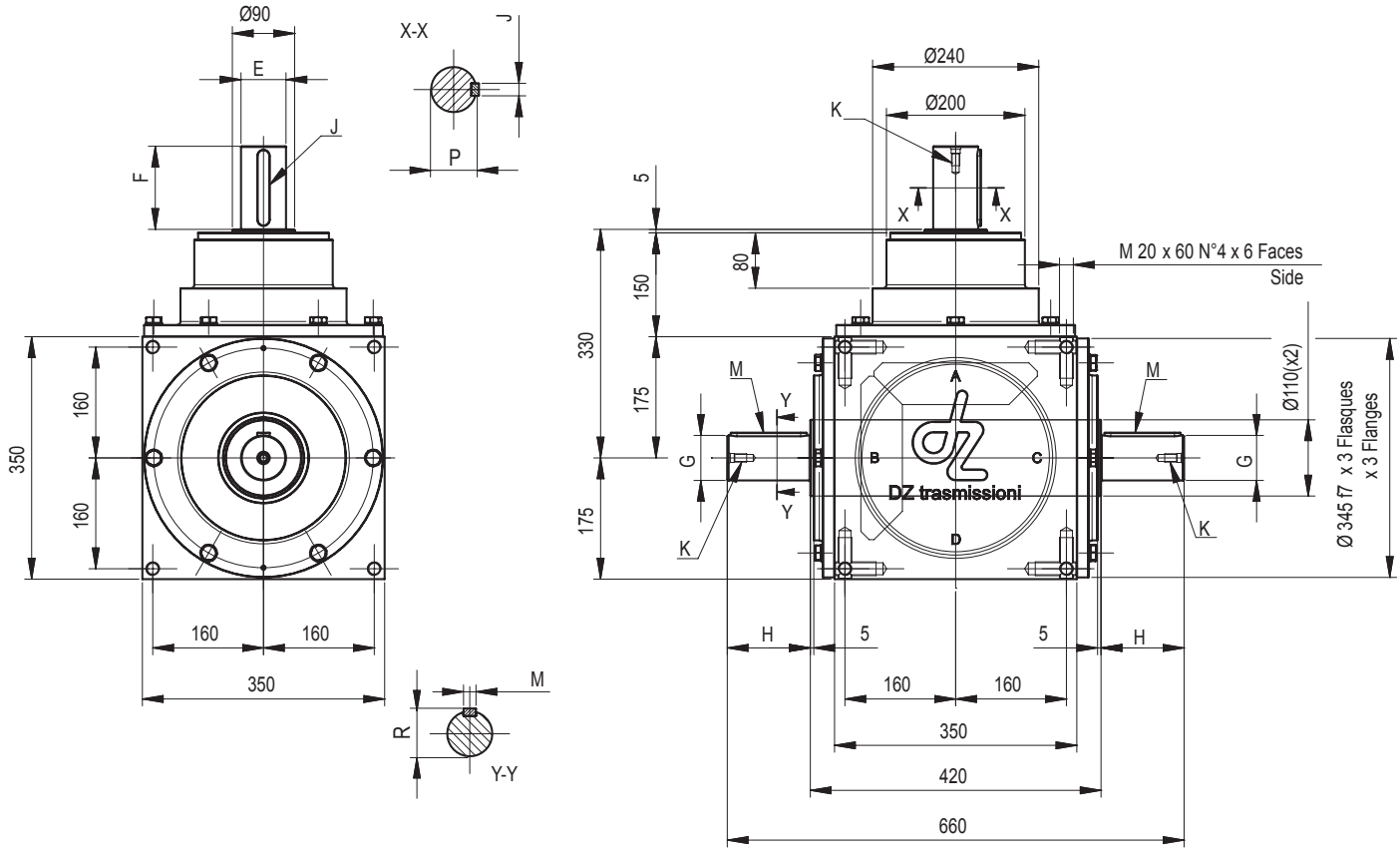


MOD.	DZ
SERIE SPECIALE *SPECIAL*	

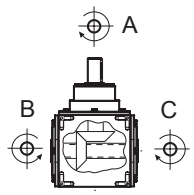


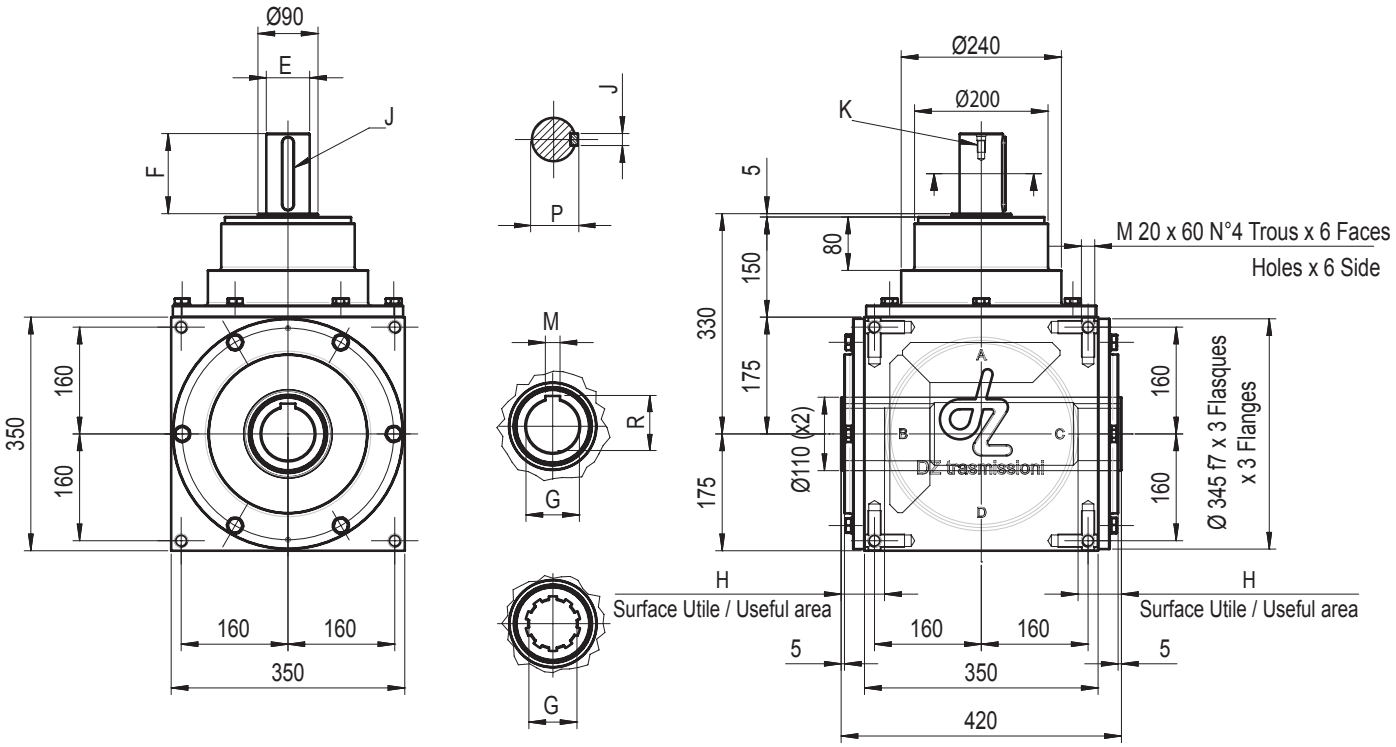
Modèle *Model*	Version *Version*			Rapp. *Ratio*	E	F	G	H	J	M	K	P	R	Poids *Weight*
DZ 270 – 51	A-B	A-C	A-B-C	1/1	65	120	65	120	18x11x110	18x11x110	M12x25	69	69	212-221 Kg
DZ 270 – 61	A-B	A-C	A-B-C	1/1	65	120	85	170	18x11x110	22x14x160	M12x25	69	90	
DZ 270 – 71	A-B	A-C	A-B-C	1/1	85	170	85	170	22x14x160	22x14x160	M12x25	90	90	
Autres rapports sur demande / *Other ratios are available upon request*														

En cas de commandes indiquer: modèle - version (arbres présents) - rapport / *In case of order please state: model – version (shafts) – ratio*



MOD.	DZ
SERIE SPECIALE *SPECIAL*	



Modèle *Model*	Rapp. *Ratio*	E	F	G	H	J	M	K	P	R	Poids *Weight*
DZ 270 – 01	1/1	65	120	80	65	18 x 11 x 110	22	M12 x 25	65	85,5	204-207 Kg
DZ 270 – 21	1/1	85	170	80	65	22 x 14 x 160	22	M12 x 25	90	85,5	
DZ 270 – 31	1/1	65	120	UNI 8953 10 x 72 x 82	50	18 x 11 x 110	-	M12 x 25	65		
Autres rapports sur demande / *Other ratios are available upon request*											

En cas de commandes indiquer: modèle - version (arbres présents) - rapport / *In case of order please state: model – version (shafts) – ratio*