POWER TAKE OFF Type "BD"

TECHNICAL FEATURES

The TECHNODRIVE power take-offs "BD" model may be coupled directly to Diesel engines with SAE flanges. They can be used for a variety of industrial applications where there is a need to disengage movement from the engine to the driven unit, such as the drives of compressors, fans, pumps. The mechanically controlled dry-disc clutch is equipped with a housing and supported by a shaft.
TECHNODRIVE range consists of single-disc power take-offs by 6"1/2, 7"1/2, 8", 10", 11"1/2, double- disc power take-offs by 11"1/2 and 14", triple-disc power take-offs by 11"1/2, 14" and 18", able to cover a power range between 15 and 700 kw.

SELECTION

Selection of the clutch should be made considering the following issues:
- type of engine;
- type of driven machine;
- number of engagements per hour;
- power absorbed by the driven unit **P** and relevant rpm (**n**);
- maximum rotation speed.

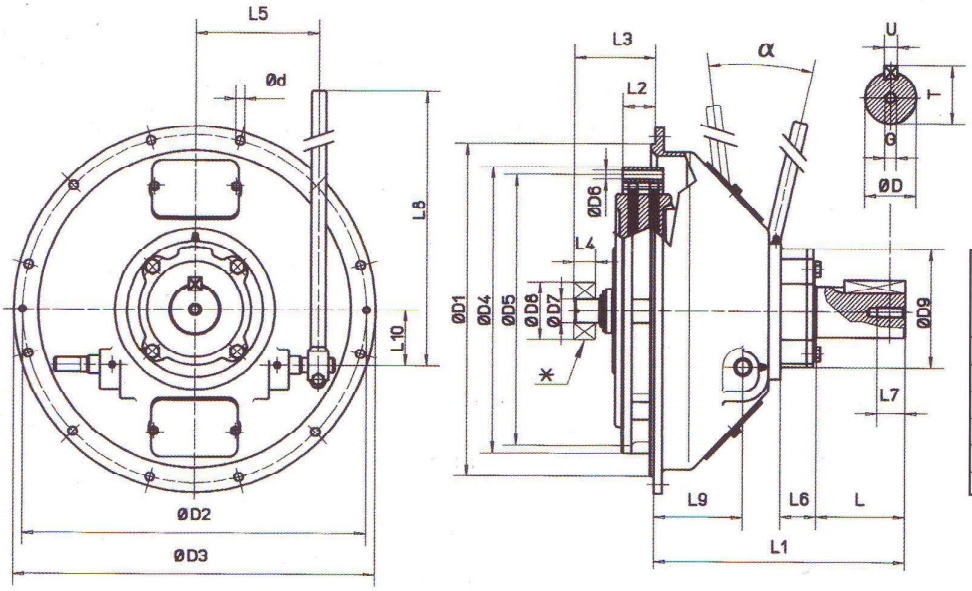
The selection has to be made comparing maximum torque value that may be transmitted by the clutch, indicated with **T** in the catalogue, and maximum torque value absorbed by the driven unit **Ta** multiplied by service factor **S** obtainable from the table:

$$\mathbf{Ta}\ (Nm) = \frac{\mathbf{P}\ (Kw)}{\mathbf{n}\ (min^{-1})}\ 9550$$

$$\mathbf{Ta}\ (Nm) \cdot \mathbf{S} \leq \mathbf{T}\ (Nm)$$

Engine: Diesel 1-2 Cylinders Engine / Diesel 3-4 Cylinders Engine / Diesel 6 Cylinders Engine / Electric, Turbine	Service Factor **S**			
Driven Equipment				
Low WR2 equipment and torque demand curve similar to centrifugal pumps. Mechanism operated one (1) or more hours before disconnecting. centrifugal pump — ventilator blowers/fans hydraulic pump — generators cooling circuit pump — firefighting pump	1,1	1,25	1,3	1,4
Medium/low WR2 equipment and with low frequency of torque demand peaks. Clutch engaged max. 5 times each hour. 4 cylinder compressor — marine equipment excavator — backhoe loaders	1,2	1,5	1,6	2,0
Medium/high WR2 equipment. The clutch must engage within 3 seconds. Clutch engaged max. 10 times each hour. 2 cylinder compressors — mills concrete mixers — wood chippers	1,6	2,1	2,3	2,7
High WR2 equipment and/or with high frequency of torque demand peaks and/or clutch engaged more than 10 times each hour. The clutch must engage within 4 seconds. Single cylinder compressors Crushers or impact load machines	2,2	2,8	3,1	3,6

Caratteristiche - Dimensioni di ingombro
Specifications - Overall dimensions
Caracteristiques - Dimensions d'encombrement



Campana SAE Hsg. Size SAE Cloche SAE	D1	D2	D3	d
5	314.3	333.4	355	8x10.5
4	362	381	403	12x10.5
3	409.6	428.6	451	12x10.6
2	447.7	466.7	489	12x10.7
1	511.2	530.2	552	12x12
0	647.7	679.5	711	16x13.5

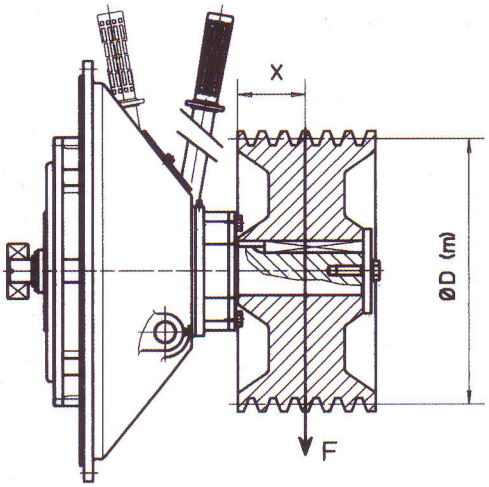
* Cuscinetto pilota a richiesta
* Pilot Bearing upon your request
* Roulement pilote à demande

Modello Model Type	Campana SAE Hsg. Size SAE Cloche SAE	Coppia max Max torque Couple maxi T (Nm)	Giri max Max speed Vitesse maxi RPM	Frizione SAE Clutch SAE Embrayage SAE	D4 mm	D5 mm	D6 n°xmm	Momento di inerzia Moment of inertia Moment d'inertie J (Kgm²)	Coppia di innesto Engag. torque Couple d'emb. M (Nm)	Peso Weight Poids Kg
BD 110/15	5	170	3500	6 ½"	215,9	200	6x8,5	0,050	70	21
	4	170	3500	6 ½"	215,9	200	6x8,5	0,050	70	22
BD 112/16	4	200	3500	7 ½"	241,3	222,3	8x8,5	0,070	90	24
BD 112/16	4	200	3500	8"	263,5	244,5	6x10,5	0,080	90	24
	3	200	3500	8"	263,5	244,5	6x10,5	0,080	90	25
BD 118/24	4	240	3500	8"	263,5	244,5	6x10,5	0,090	110	29
	3	240	3500	8"	263,5	244,5	6x10,5	0,090	110	31
BD 130/50	4	330	3100	10"	314,3	295,3	8x11	0,140	220	44
	3	330	3100	10"	314,3	295,3	8x11	0,140	220	47
BD 145/75	4	450	3100	11 ½"	352,4	333,4	8x10,5	0,260	220	48
	3	450	3100	11 ½"	352,4	333,4	8x10,5	0,260	220	52
BD 290/150	3	880	2900	11 ½"	352,4	333,4	8x10,5	0,450	220	68
	2	880	2900	11 ½"	352,4	333,4	8x10,5	0,450	220	70
	1	880	2900	11 ½"	352,4	333,4	8x10,5	0,450	220	75
BD 290/150 R	3	880	2900	11 ½"	352,4	333,4	8x10,5	0,480	220	77
	2	880	2900	11 ½"	352,4	333,4	8x10,5	0,480	220	79
	1	880	2900	11 ½"	352,4	333,4	8x10,5	0,480	220	84
BD 390	3	1320	2900	11 ½"	352,4	333,4	8x10,5	0,790	220	95
	2	1320	2900	11 ½"	352,4	333,4	8x10,5	0,790	220	98
BD 2200	1	1960	2400	14"	466,7	438,2	8x13	1,820	400	156
BD 2200 R	1	1960	2400	14"	466,7	438,2	8x13	1,880	400	170
BD 3300	1	2940	2400	14"	466,7	438,2	8x13	2,550	500	170
BD 3300 R	1	2940	2400	14"	466,7	438,2	8x13	2,610	500	193
BD 3500	0	4150	2000	18"	571,5	542,9	6x17	6,120	600	420

Dimensioni di ingombro - Overall dimensions - Dimensions d'encombrement

Modello Model Type	Frizione SAE Clutch SAE Embr. SAE		Albero Shaft Arbre																
		LI	L	D	T	U	G	L2	L3	L4	L5	L6	L7	L8	L9	L10	D7	D8	D9	α
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
BD 110/15	6 ½"	212,5	80	36,51	41,3	9,52	M10	30,2	71,4	18	148	12	25	400	68,5	70	25	52	96	18°
BD 110/15	7 ½"	212,5	80	36,51	41,3	9,52	M10	30,2	71,4	18	148	12	25	400	68,5	70	25	52	96	18°
BD 112/16	7 ½"	212,5	80	36,51	41,3	9,52	M10	30,2	71,4	18	148	12	25	400	68,5	70	25	52	96	18°
BD 112/16	8"	184	80	36,51	41,3	9,52	M10	62	100	24	148	12	25	400	40	70	25	62	96	18°
BD 118/24	8"	221	100	44,45	50,8	12,70	M10	62	100	24	148	29	28	400	40	70	25	62	138	18°
BD 130/50	10"	297	140	57,15	65,1	15,87	M10	53,8	100	27	160	33	30	400	78	70	30	72	122	18°
BD 145/75	11 ½"	334	165	57,15	65,1	15,87	M14	39,6	100	27	155	45	30	400	78	70	30	72	170	20°
BD 290/150 SAE 3	11 ½"	367	165	63,50	71,4	15,87	M14	39,6	100	27	155	45	35	400	111	70	30	72	170	20°
BD 290/150 SAE 2-1	11 ½"	367	165	63,50	71,4	15,87	M14	39,6	100	27	200	45	35	600	107	80	30	72	170	20°
BD 290/150 R SAE 3	11 ½"	461	150	63,50	71,4	15,87	M14	39,6	100	27	155	134	35	400	111	70	30	72	154	20°
BD 290/150 R SAE 2-1	11 ½"	461	150	63,50	71,4	15,87	M14	39,6	100	27	200	134	35	600	107	80	30	72	154	20°
BD 390 SAE 3	11 ½"	488	150	63,50	71,4	15,87	M14	39,6	100	27	155	134	35	400	138	70	30	72	154	20°
BD 390 SAE 2	11 ½"	488	150	63,50	71,4	15,87	M14	39,6	100	27	200	134	35	600	138	80	30	72	154	20°
BD 2200	14"	467	140	88,90	100	22,22	M20	25,4	100	31	215	77	40	600	179	114	35	80	220	15°
BD 2200 R	14"	571	140	88,90	100	22,22	M20	25,4	100	31	215	181	40	600	179	114	35	80	220	15°
BD 3300	14"	495	140	88,90	100	22,22	M20	25,4	100	31	215	77	40	600	207	114	35	80	220	15°
BD 3300 R	14"	600	140	88,90	100	22,22	M20	25,4	100	31	215	181	40	600	207	114	35	80	220	15°
BD 3500	18"	663	200	114,30	127	25,4	M24	15,7	100	29	305	105	60	600	265	145	55	120	290	15°

Carichi radiali ammessi sull'albero di uscita
Allowable side - pull loads on the output shaft
Charges radiaux admissibles sur l'arbre de sortie



Modello Model Type	X (mm) Distanza - Distance - Distance					
	30	50	80	100	120	140
BD 110/15	370	280	-	-	-	-
BD 112/16	370	280	-	-	-	-
BD 118/24	560	430	335	-	-	-
BD 130/50	930	600	430	-	-	-
BD 145/75	1800	1200	750	650	-	-
BD 290/150	1800	1200	750	650	-	-
BD 390	2500	2000	1500	1250	-	-
BD 2200	-	2150	1600	1350	1200	-
BD 3300	-	2150	1600	1350	1200	-
BD 3500	-	2800	2700	2650	2600	2500

$$F = \frac{1910 \cdot Kw}{Rpm \cdot D} \cdot f \cdot f_1$$

F Carico radiale (daN) - Side load (daN) - Charge radial (daN).
Kw Potenza in entrata (Kw) - Input power (Kw) - Puissance (Kw).
n Velocità di rotazione dell'albero di uscita (RPM)
Output shaft speed (RPM)
Vitesse da rotation de l'arbre de sortie (RPM).
D Diametro primitivo della puleggia (m)
Pitch diameter of pulley (m)
Diamètre primitif de la poulie (m).
f Fattore di carico - Load factor - Facteur da charge.
1,0 Per catena o ingranaggio - For chain or gear drive - Pour chaine ou engrenage.
2,5 Per cinghie trapezoidali - For V belts - Pour courroie trapezoidale.
3,5 Per cinghia piatta - For flat belts - Pour courroie plate.
f_1 2, solo per compressori alternativi o applicazioni con forti shock.
2, only for reciprocating compressor or severe shock drives.
2, pour des compresseurs alternatifs ou d'autres utilisateurs avec variations da couple élevees.

Il valore di **F** risultante dal calcolo dovrà essere inferiore a quello riportato in tabella secondo la distanza X.
The resulting value of **F** is to be lower or equal to that quoted on the table, according to the distance X.
Le valeur résultante **F** doit être inférieur ou la même da celle indiqées sur le tableau selon la distance X.

FRIZIONI Tipo "BDS"

Le frizioni "BDS" sono ricavate dalle corrispondenti frizioni "BD" con l'aggiunta di una campana di chiusura e di un albero di entrata per consentirne il montaggio indipendente.
Non sono ammessi carichi radiali su albero in entrata.

POWER TAKE OFF Type "BDS"

"BDS" clutches are obtained by the corresponding "BD" clutches with the addition of a closing housing and of an input shaft to allow themselves an independent mounting.
Radial loads on input shaft ere not allowed.

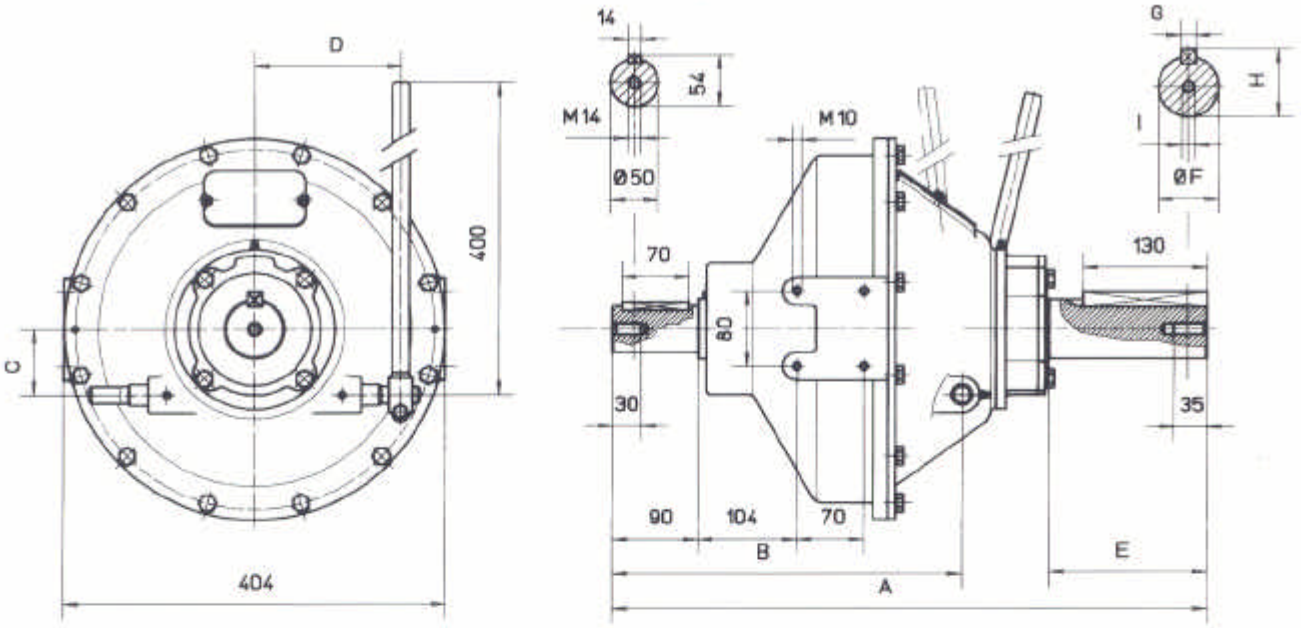
EMBRAYAGES Type "BDS"

L'embrayage "BDS" dit indépendant est conçu à partir d'un embrayage type "BD" auquel on ajoute une cloche et un arbre d'entrée.
Ce dernier n'accepte pas de charges radiales.

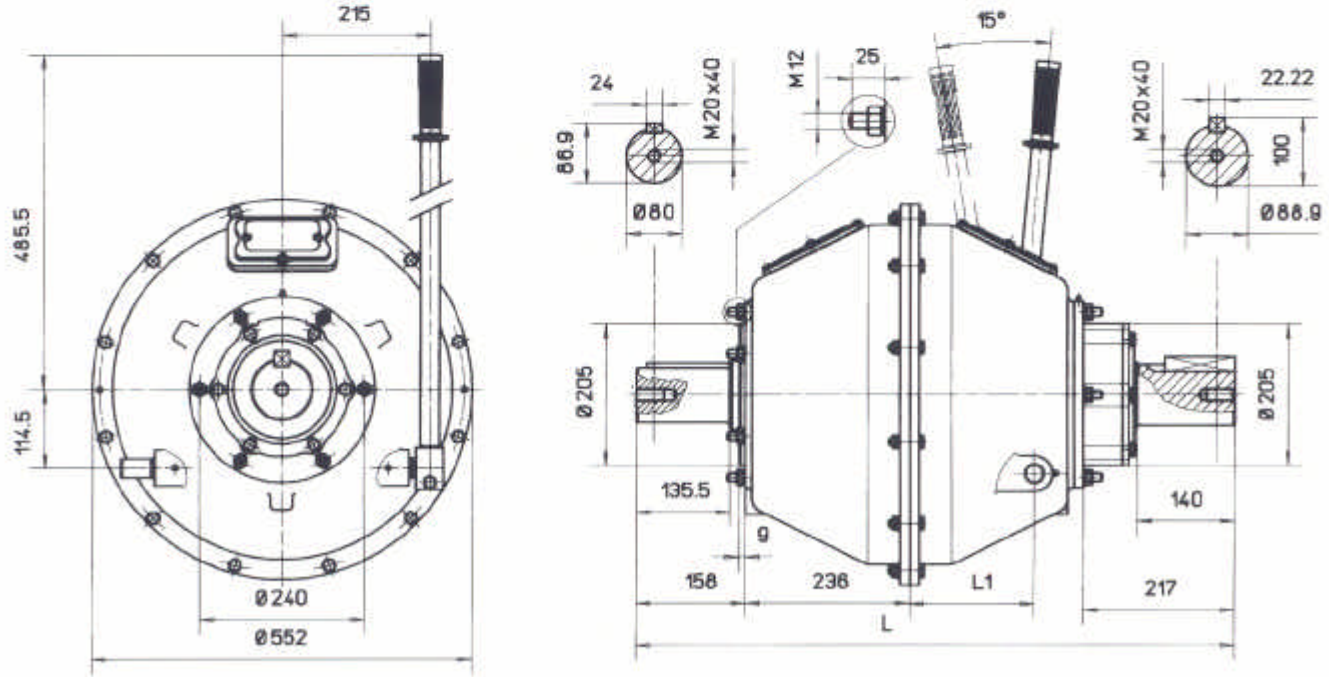
Caratteristiche tecniche - Technical data - Caracteristique technique

Modello Model Type	Coppia max Max torque Couple maxi T (Nm)	Giri max Max speed Vitesse maxi RPM	Peso Weight Poids Kg	Momento di inerzia Moment of inertia Moment d'inertie J (Kgm^2)
BDS 112/16	200	3500	52	0,1175
BDS 118/24	240	3500	57	0,1375
BDS 130/50	330	3100	75	0,2875
BDS 145/75	450	3100	83	0,4375
BDS 290/150	880	2900	106	0,6750
BDS 2200	1960	2400	264	3,0000
BDS 3300	2940	2400	288	3,3750

Dimensioni di ingombro - Overall dimensions - Dimensions d'encombrement



Modello Model Type	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm
BDS 112	474	330	70	148	80	36,51	9,52	41,3	M10
BDS 118	511	330	70	148	100	44,45	12,70	50,8	M10
BDS 130	587	368	70	160	140	57,15	15,87	65,1	M10
BDS 145	623	368	70	155	165	57,15	15,87	65,1	M14
BDS 290	656	401	70	155	165	63,50	15,87	71,4	M14



Modello Model Type	L mm	LI mm
BDS 2200	862	179
BDS 3300	890	207

FRIZIONI Tipo "BDP"-"BDSP"

Le frizioni monodisco e bidisco da 11"1/2 possono essere fornite con uscita idonea al montaggio diretto di pompe idrostatiche. La coppia trasmissibile e le caratteristiche tecniche sono le stesse dei corrispondenti modelli "BD" e "BDS".

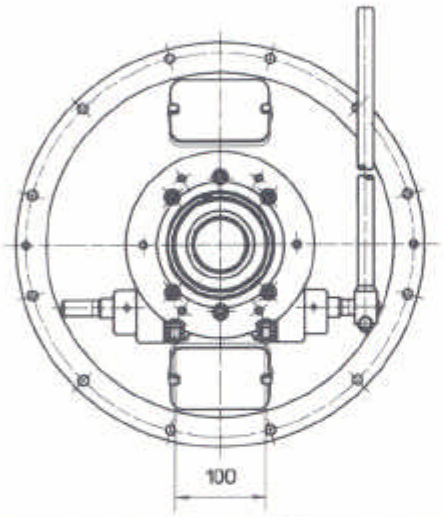
POWER TAKE OFF Type "BDP"-"BDSP"

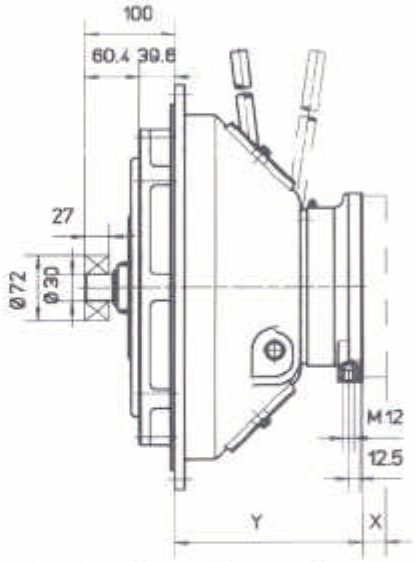
Single plate and double plate 11"1/2 Pto's can be supplied with suitable output for direct mounting of hydrostatic pumps. Torque and technical characteristics are same as correspondent "BD" and "BDS" models.

EMBRAYAGES Type "BDP"-"BDSP"

Les embrayages mono-disque et bi-disques de 11"1/2, sont également disponibles avec une sortie prédisposée permettant le montage direct d'une pompe hydraulique. Les caractéristiques techniques, les couples et puissances transmises sont identiques sur les modèles "BD" et "BDS".

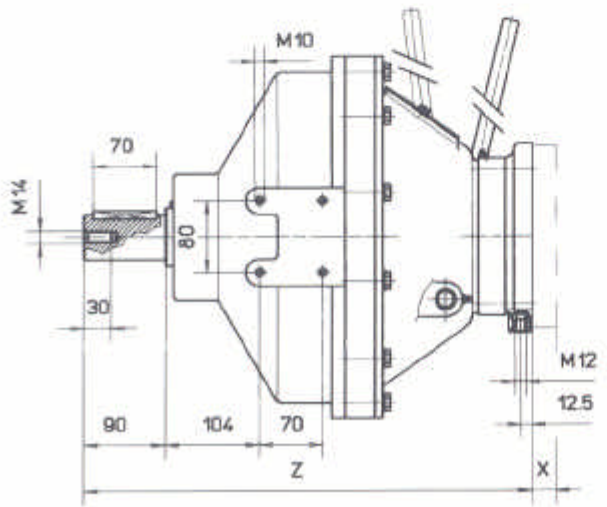
Dimensioni di ingombro - Overall dimensions - Dimensions d'encombrement

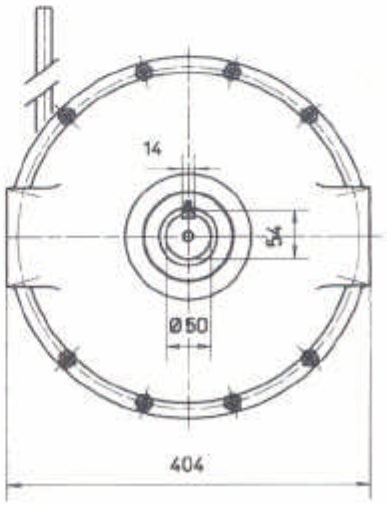




Modello Model Type	Campana Housing Cloche	Volano Flyweel Volant	Coppia max - Nm Max torque - Nm Couple maxi - Nm	Giri max - RPM Max speed - RPM Vitesse maxi - RPM	Y mm
BDP 145	3-4	11"1/2	450	3100	174
BDP 290	1-2-3	11"1/2	880	2900	207

Pompa Pump Pompe	X mm
SAE B	20
SAE C	28





Modello Model Type	Coppia max - Nm Max torque - Nm Couple maxi - Nm	Giri max - RPM Max speed - RPM Vitesse maxi - RPM	Z mm
BDSP 145	450	3100	463
BDSP 290	880	2900	496

Pompa Pump Pompe	X mm
SAE B	20
SAE C	28