SYMBOLS

P = Power (Kw)
i = Ratio
T = Torque (Nm)
n = Speed (RPM)
Fr = Radial Load (N)
Fa = Axial Load (N)
f.s. = Service Factor
D = Diameter (mm)

1 Kw = 1,36 HP
9,81 N = 1 Kp

1 Input
2 Output

GENERAL INFORMATION

POWER P

$P_1 * \eta = P_2$
P_1 = Input power
P_2 = Output power
η = Transmission efficiency

VELOCITA' DI ROTAZIONE n

n_1 = Input speed
n_2 = Output speed

An output speed ≤ 1400 rpm is suggested so as to optimize the working condition and extend the service life.

TRANSMISSION RATIO i

$$i = \frac{n_1}{n_2}$$

TORQUE T

$$T_2 = \frac{9550 \cdot P_1 \cdot \eta}{n_2} \left[Nm\right] \qquad T_{2n} \geq T_2 \cdot f_s \left[Nm\right]$$

T_2 = Output torque
T_{2n} = Rated output torque
P_1 = Input power
η = Transmission efficiency
f_s = Service factor

2D and 3D drawings available on the web site ***www.chiaravalli.com***
Quantity, availability and prices with Chiaravalli B2B

RADIAL LOADS FR

The radial loads is proportional to the requested torque and inversely proportional to the transmission member diameter following this formula.

$$F_R = \frac{2000 \cdot T \cdot T.e.f.}{D} \left[N \right]$$

F_R = Radial load
T = Nm (Torque)
T.e.f. = Transmission element factor
T.e.f. = 1,15 gear
= 1,4 chain spocket
= 1,75 v-pulley
= 2,5 flat-pulley
D = Transmission element diameter

When the radial loads is not applied on the centre line of the shaft it is necessary to use the following formula.

$$F_{Rx} \leq \frac{F_R \cdot a}{(b+x)} \left[N \right]$$

F_R = Radial load on the centre line
a,b,x = see tables page 9-46-47-77-78

LUBRICATION

All, gearboxes and variators are supplied, CHA type excluded, complete with lubricant.
The gearboxes maintenance free are lubricated with synthetic oil the others with mineral oil.
It is very important to verify the mounting position because sometimes adding some oil is enough, in other case to lubricate bearings with special grease would be necessary. Use only recommended oils.
Warning in case of heavy work itis better to install, where possible, breather plug.

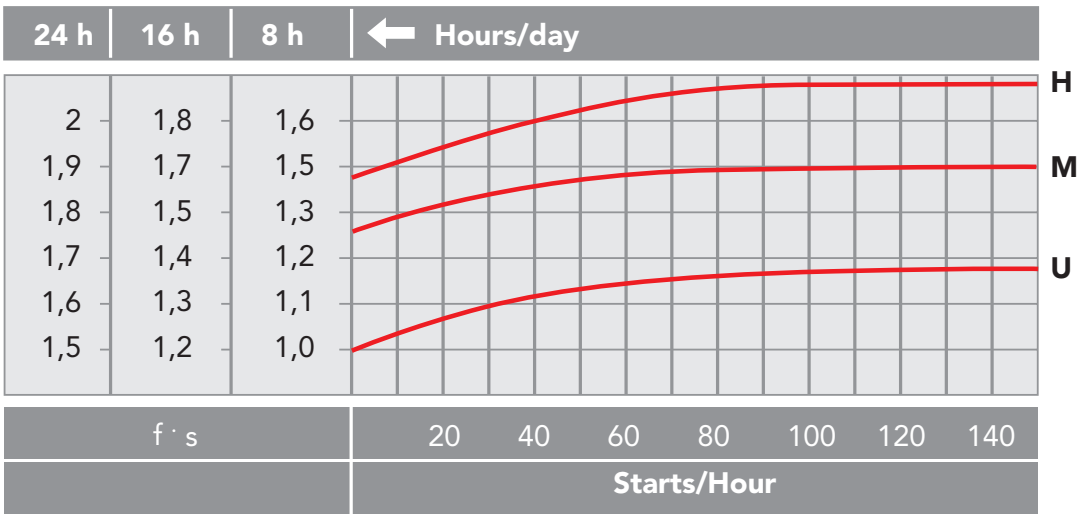
PAINTING

All the gearboxes and electrical motors are painted Grey RAL 9022 with epoxy resins powder.
Big gearboxes and motors are cast iron made, aluminium all the others.

SERVICE FACTOR Fs

The service factor mainly depends on three parameters:
- type to load: U - M - H
- run time: h/day
- start-up frequency: na/h

U = uniform
M = moderate
H = heavy
na/h = starts/hour



LOAD TYPE - APPLICATION

U Conveyor belts for light weights - centrifugal pumps - lifts - bottling machines

M Conveyor belts for heavy weights - packing machines - wood working machines - gear pumps

H Mixers - bucket elevators - tooling machines - machinery for bricks - vibrators

V6/B8 MOUNTING POSITION

When the worm gearboxes mounting position is V6 or B8, with continuous work or input speed >1400 p.p.m, it is necessary to call our technical service.

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