

Bushless version

FEATURES

- Carbon resistive element.
- IP54 protection according to IEC 60529.
- Polyester substrate.
- Modular gang type (up to 4).
- Self extinguishable material UL 94-V0.
- Upon request:
 - Metallic support.
 - Stereo matching.
 - Switch.
 - Nut & washer.
 - Bushless & shaftless models.
 - Assemblies with wires and connectors.

MECHANICAL SPECIFICATIONS

- Mechanical rotation angle: $300^\circ \pm 5^\circ$
- Electrical rotation angle: $280^\circ \pm 20^\circ$
- Torque: 0.5 to 1.5 Ncm. (0.7 to 2.1 in-oz)
- Stop torque: > 40 Ncm. (>56 in-oz)
- Max. torque nut (binding out): < 80 Ncm. (112 in-oz)
- Thrust and pull in the shaft: > 25 N

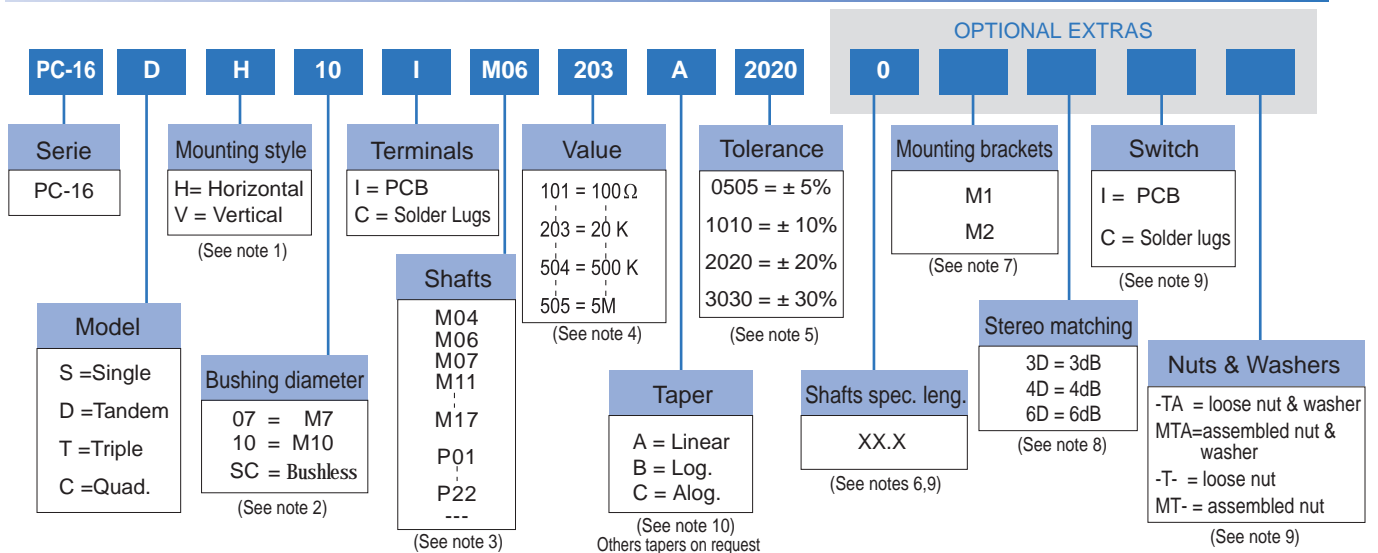
* Others check availability.

** Up to 85°C depending on application.

ELECTRICAL SPECIFICATIONS

- Range of values*
 $100\Omega \leq R_n \leq 5\text{ M}$ (Decad. 1.0 - 2.0 - 2.2 - 2.5 - 4.7 - 5.0)
- Standard tolerance*: $100\Omega \leq R_n \leq 1\text{M}\Omega$ $\pm 20\%$
 $1\text{M}\Omega < R_n \leq 5\text{M}\Omega$ $\pm 30\%$
- Max. Voltage: 250 VDC (lin) 125 VDC (no lin)
- Nominal Power 50°C (122°F) (see power rating curve)
 0.2 W (lin) 0.1 W (no lin)
- Taper* Lin ; Log; Alog (Log. & Alog. only $R_n \geq 1\text{K}$).
- Residual resistance*: $\leq 0.5\% R_n$ (5 Ω min.)
- Equivalent Noise Resistance: $\leq 3\% R_n$ (3 Ω min.)
- Operating temperature**: $-25^\circ\text{C} + 70^\circ\text{C}$ ($-13^\circ\text{F} + 158^\circ\text{F}$)

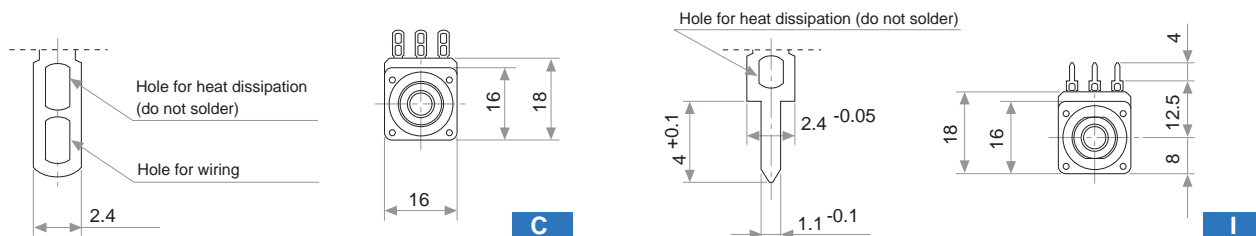
HOW TO ORDER



NOTES:

- (1) Mounting style: Type "V" is only available in model "S" potentiometer and with printed circuit terminals.
- (2) Bushings: Type "10" has two parallel flat surfaces for avoiding rotation. Bushless option only available for single model.
- (3) M07 shaft is only available with M10 bushing. --- = no shaft
- (4) Value:
 - Code: $\begin{matrix} 10 & 1 & 100\Omega \\ \swarrow & \searrow & \rightarrow \\ & \text{Number of zeros} & \\ & \text{2 first digits of the value.} & \end{matrix}$
 - In models "D", "T", "C", with different values, they will be asked by drawings.
- (5) Tolerance (non standard), upon request. Example: $\begin{matrix} +7\% & \text{Code: } 07 & 05 \\ -5\% & & \rightarrow \\ & \text{negative tolerance} & \\ & \text{positive tolerance} & \end{matrix}$
- (6) Shaft special length:
 - Only for special length and plain shafts (not knurled). Example: Shaft $\varnothing 6.35$ L= 24.5 $\begin{matrix} M07 \dots 24.5 \\ \rightarrow \\ \text{special length shafts} \end{matrix}$
 - NOTE: Maximum length recommended: L = 45
- (7) Mounting brackets: Only applicable for model "S", mounting "H" and without switch.
- (8) Stereo matching: not available for single models. Maximum will be: •3dB for model "D" •4dB for model "T" •6dB for model "C"
- (9) Not available for Bushless version.
- (10) Switch option not available with antilog taper.

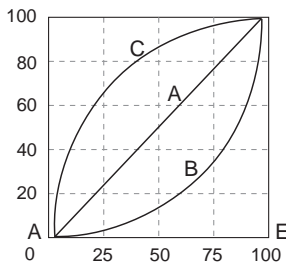
TERMINALS



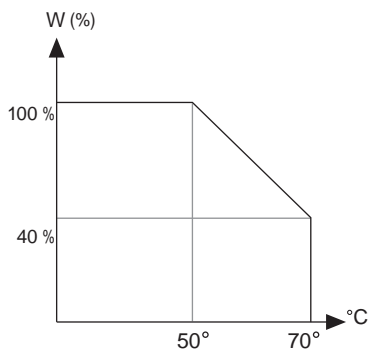
TAPERS

Standard

A = Linear
B = Log.
C = Alog.



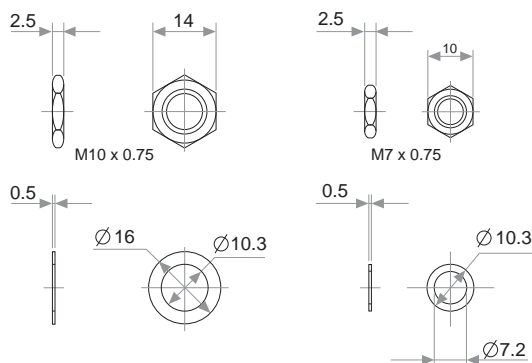
POWER RATING CURVE



NUTS & WASHERS

Bushing 10

Bushing 07



NOTE = Please note relative terminal positions when ordering non linear tapers.

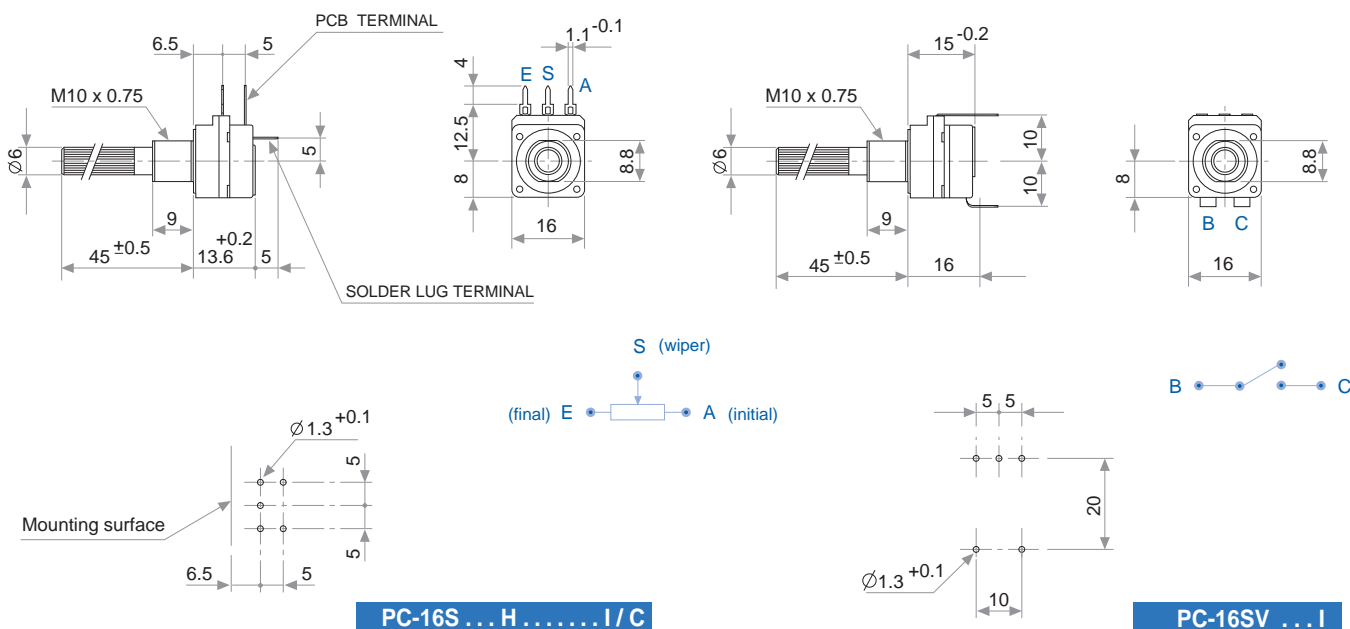
TESTS

TYPICAL VARIATIONS

TESTS		TYPICAL VARIATIONS
ELECTRICAL LIFE	1.000 h. @ 50°C; 0.2 W	±5 %
MECHANICAL LIFE : POT.* SWITCH	25.000 (10-15 CPM) 10.000 (1 A, 50 VAC)	±3 % (Rn < 1 MΩ)
TEMPERATURE COEFFICIENT	-25°C; +70°C	±300 ppm/°C (Rn < 100 KΩ)
THERMAL CYCLING	16 h. @ 85°C; 2h. @ -25°C	±2.5 %
DAMP HEAT	500 h. @ 40°C @ 95% HR	±5 %
VIBRATION (for each plane X,Y,Z)	2 h. @ 10 Hz. ... 55 Hz.	±2 %

(*) only applicable to values ≥1K. For lower values please consult.

SWITCH



SWITCH SPECIFICATIONS

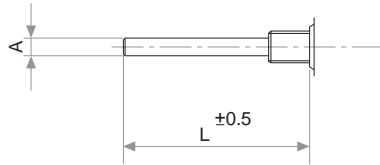
NOMINAL CURRENT	1A, 250 VAC
CONTACT RESISTANCE (initial)	10 m Ω
OPERATING TORQUE	1 to 3 Ncm (1.4 to 4.2 in oz)
OPERATING ANGLE	30° \pm 5°
TEST VOLTAGE	500 V

PACKAGING

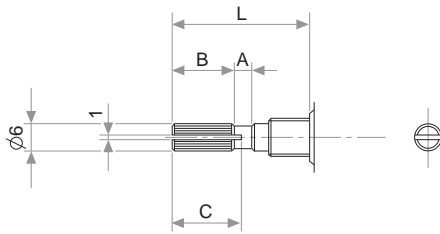
Boxes of 100 pieces (single body model): Inner dimensions 250 x 160 x 95 mm

METALIC SHAFTS

STANDARD

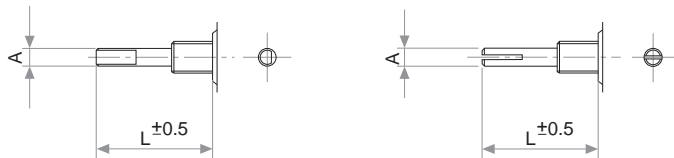


A	L	CODE
4	45	M04
6	45	M06
6.35	45	M07



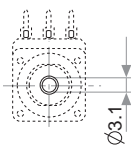
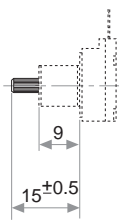
A	B	C	L	CODE
2	5	7	15	M11
2	10	11	20	M12
4	12	14	25	M13
4	12	14	30	M14
4	12	14	35	M15
4	12	14	40	M16
4	12	14	45	M17

SPECIAL



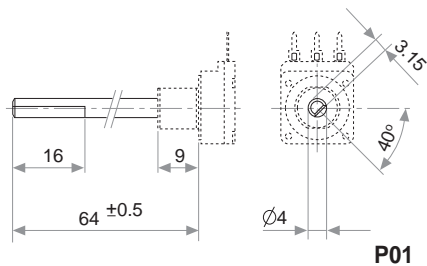
A
$\varnothing 4$
$\varnothing 6$
$\varnothing 6.35$

PLASTIC SHAFTS $\varnothing 3.1$

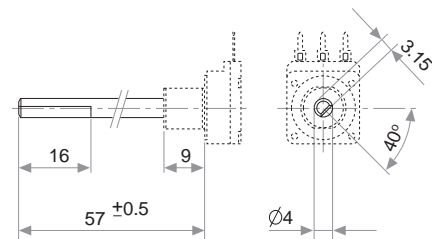


P09

PLASTIC SHAFTS $\varnothing 4$

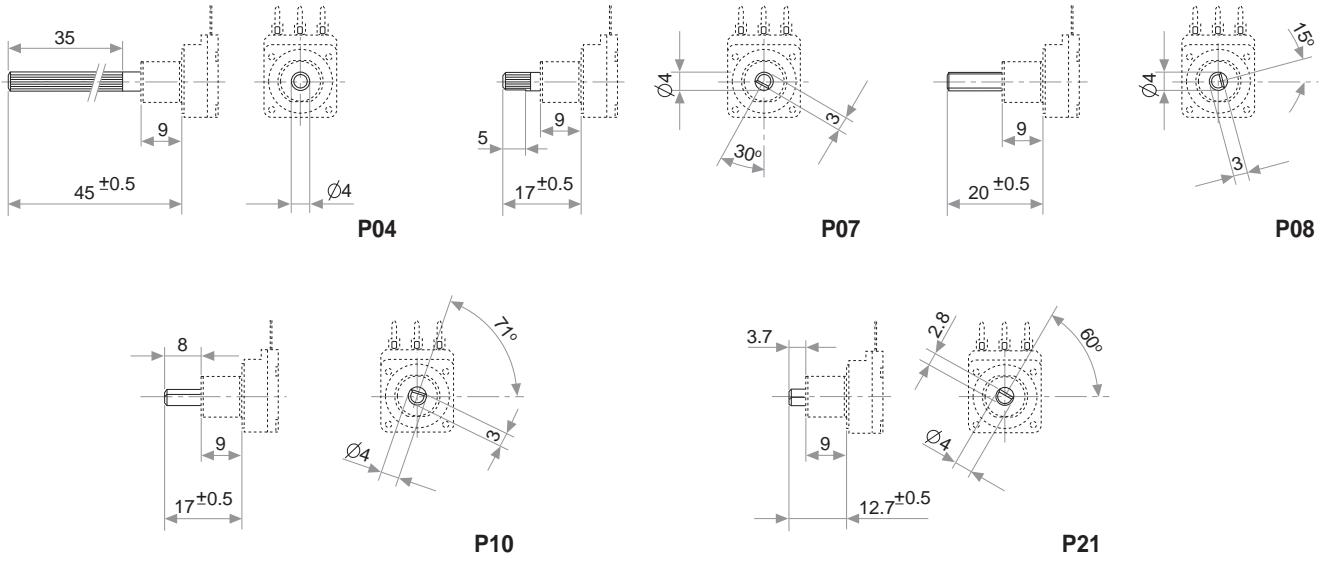


P01



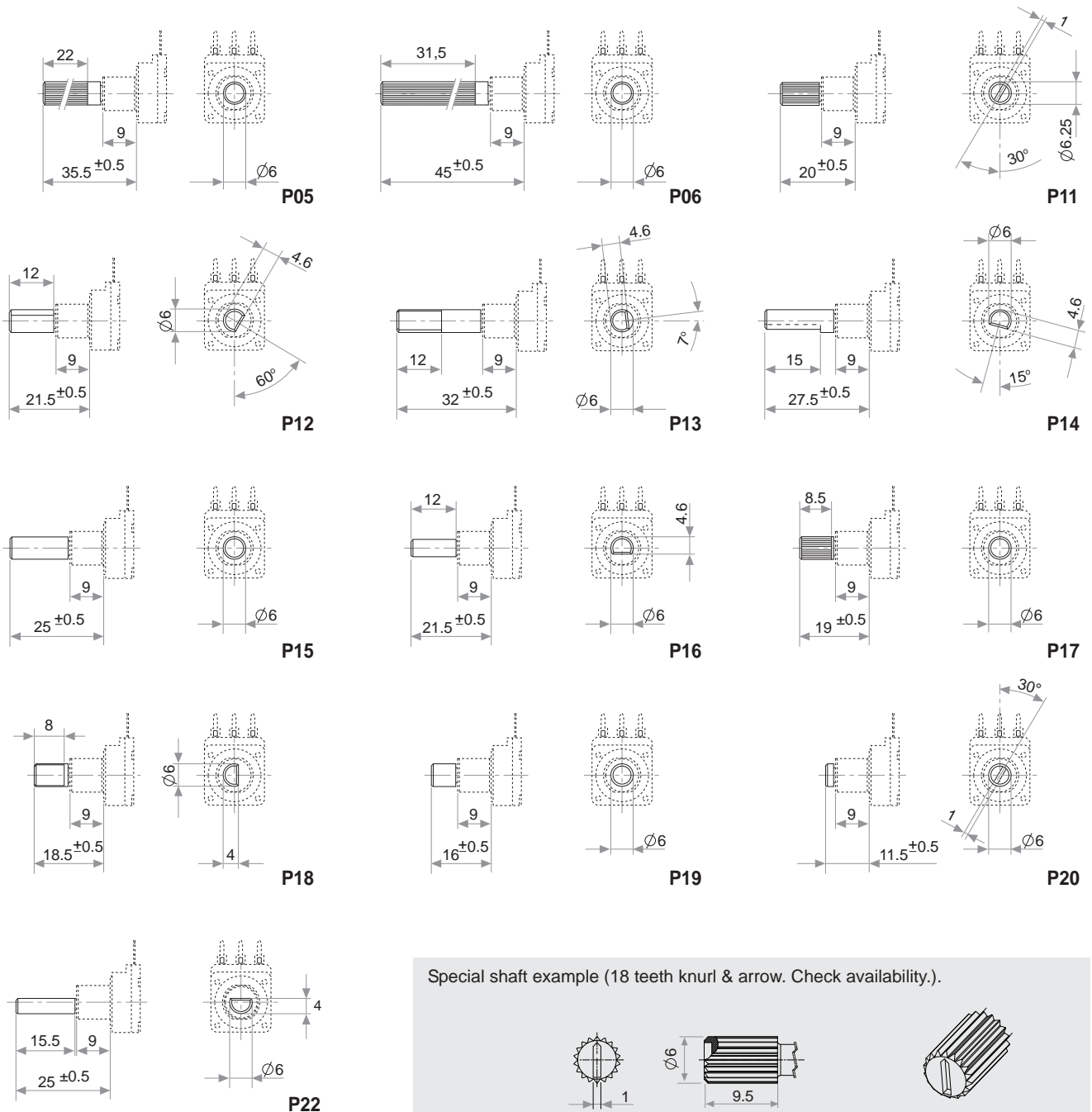
P02

PLASTIC SHAFTS Ø 4

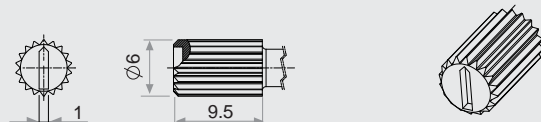


PLASTIC SHAFTS Ø 6

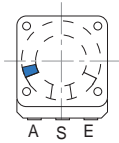
Shaft position shown full CCW. Any other position for plastic shafts has to be shifted n times 24°. Other positions upon request.



Special shaft example (18 teeth knurl & arrow. Check availability).

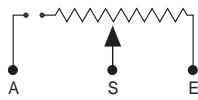


OPEN CIRCUIT FEATURE (CUT TRACK)

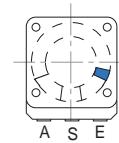
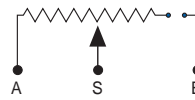


CCW on-off (A)

PCI
Cut track at the beginning of the travel.



PCF
Cut track at the end of the travel.



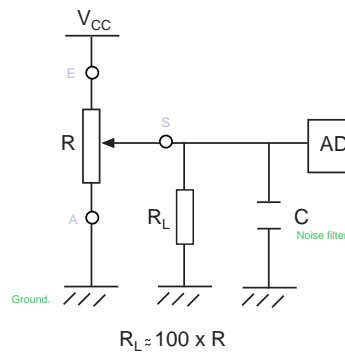
CW on-off (E)

A = Initial S = Wiper E = Final.

PCI, PCF and other configurations available upon request. Check the ordering code with Piher.

RECOMMENDED CONNECTIONS

Piher potentiometer's recommended connection circuit for a position sensor or control application. (voltage divider circuit electronic design).



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The product information in this catalogue is for reference purposes. Please consult for the most up to date and accurate design information.

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