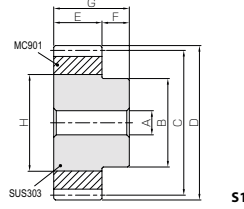




Specifications			
Precision grade	JIS grade N9 (JIS B1702-1:1998) + JIS grade 5 (JIS B1702:1976)		
Gear teeth	Standard full depth		
Pressure angle	20°		
Material	MC901 with SUS303 core		
Heat treatment	—		
Tooth hardness (115 ~ 120HRR)	—		
Module	<b>m1</b>	<b>m1.5</b>	<b>m2</b>
Face width (E)	10	15	20
Hub width (F)	10	12	14
Total length (G)	20	27	34
Screw offset (J)	5	6	7



\* The precision grade of J Series products is equivalent to the value shown in the table.

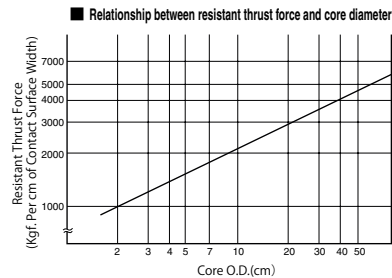
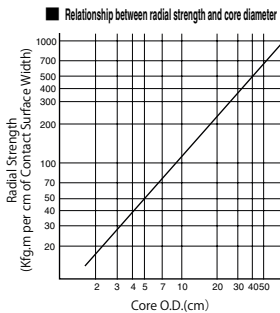
Catalog No.	No. of teeth	Shape	Bore		Pitch dia.	Outside dia.		Metal core dia.	Allowable torque (N·m)	Allowable torque (kgf·m)	Backlash	Weight (kg)		
			A <sub>H7</sub>	H <sub>7</sub>		B	C						D	H
<b>PU1-30</b>	30	S1	8	20	30	32	20	1.03	0.10	0~0.34	0.046			
<b>PU1-35</b>	35			25	35	37	25	1.25	0.13					
<b>PU1-40</b>	40			25	40	42	28	1.48	0.15					
<b>PU1-50</b>	50			30	50	52	34	1.96	0.20					
<b>PU1-60</b>	60			40	60	62	45	2.41	0.25					
<b>PU1-80</b>	80			40	80	82	45	3.34	0.34					
<b>PU1.5-30</b>	30			30	45	48	30	3.46	0.35			0~0.40	0.15	
<b>PU1.5-35</b>	35			33	52.5	55.5	36	4.22	0.43					
<b>PU1.5-40</b>	40		40	60	63	45	5.00	0.51						
<b>PU1.5-50</b>	50		40	75	78	45	6.60	0.67						
<b>PU1.5-60</b>	60		50	90	93	55	8.14	0.83						
<b>PU1.5-80</b>	80		60	120	123	85	11.26	1.15						
<b>PU2-20</b>	20		10	10	22	40	44	22	4.91	0.50	0~0.42			0.10
<b>PU2-25</b>	25				30	50	54	30	6.54	0.67				
<b>PU2-30</b>	30				35	60	64	35	8.20	0.84				
<b>PU2-35</b>	35				40	70	74	45	10.0	1.02				
<b>PU2-40</b>	40	15		15	55	80	84	60	11.9	1.21	0~0.44	0.70		
<b>PU2-50</b>	50				60	100	104	65	15.7	1.60				
<b>PU2-60</b>	60				60	120	124	85	19.3	1.97				

- [Caution on Product Characteristics]**
- Significant variations in temperature or humidity can cause dimensional changes in plastic gears (MC Nylon gears), including bore size (H8 when produced), tooth diameter, and backlash. Please see the section "Design of Plastic Gears" in separate technical reference book. (Page 101).
  - The allowable torques shown in the table are calculated values according to the assumed usage conditions. Please see Page 31 for more details.
  - When the core O.D. is the same as the hub diameter, you may see some serration on the hub. There is no effect on the strength of the gear.
  - Without lubrication, using plastic gears in pairs may generate heat and dilation. It is recommended to mate them with steel gears.
  - The backlash values shown in the table are the theoretical values for the backlash in the normal direction of a pair of identical gears in mesh.

- [Caution on Secondary Operations]**
- Please read "Caution on Performing Secondary Operations" (Page 32) when performing modifications and/or secondary operations for safety concerns. KHK Quick-Mod Gears, the KHK's system for quick modification of KHK stock gears is also available.
  - Even though the holding strength at the material interface is designed to be stronger than the teeth, a secondary operation may weaken the holding strength.
  - Plastic gears are susceptible to the effects of temperature and moisture. Dimensional changes may occur while performing secondary operations and during post-machining operations.

**Definition of Holding Strength and Safety Factor**

- The holding strength between the metal core and the molded material is a function of the contact area. The relationship between the core outside diameter and the radial strength (torque) is shown on the left, while the relationship between the core diameter and the resistant thrust force is shown on the right.

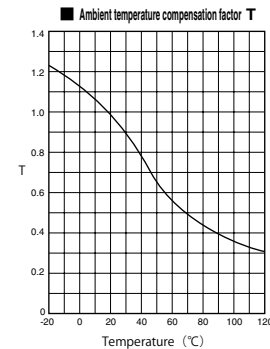


- When the ambient temperature rises, obtain the temperature compensation factor, T, from the chart on the right. Also, use a safety factor of 4 to 5 in the calculation.

$$T_{al} = T_{max} \times \frac{1}{\text{Safety Factor}} \times T$$

Where  
 $T_{al}$  : Allowable Holding Strength at the contact surface  
 $T_{max}$  : Maximum Holding Strength - Find from the charts on the left.  
 $T$  : Temperature Compensation Factor

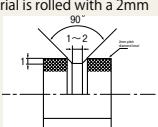
\* Data supplied by Japan Polypenco Limited.



**How is MC nylon fused to the metal core**

This method is superior to other conventional methods such as bolting, shrink fitting and bonding.

- Outline of the procedure  
 The surface of the core material is rolled with a 2mm pitch diamond knurl. Then one or more grooves (1 to 2mm wide and 1mm deep) are cut as shown below. The metal surface is treated prior to casting nylon in a mold.



- Advantage of MC nylon with metal core  
 1. Wide temperature range.  
 There are examples of wheel use in furnaces at 130 to 140° C.  
 2. Good dimensional stability  
 Since nylon is fused to the whole outer surface of the metal hub, dimensional change is very small even under temperature variations.  
 3. Good appearance  
 Elimination of bolts and nuts provides a cleaner physical appearance.

J Series Plastic Spur Gears with Stainless Steel Core

Newly added

To order J Series products, please specify; Catalog No. + J + BORE

Bore H7	* The product shapes of J Series items are identified by background color.															
Keyway Js9	8	10	12	14	15	16	17	18	19	20	22	25	28	30	32	35
Screw size	5 x 2.3							6 x 2.8				8 x 3.3		10 x 3.3		
Catalog No.	M5							M5				M6		M8		
<b>PU1-30 J BORE</b>																
<b>PU1-35 J BORE</b>																
<b>PU1-40 J BORE</b>																
<b>PU1-50 J BORE</b>																
<b>PU1-60 J BORE</b>																
<b>PU1-80 J BORE</b>																
<b>PU1.5-30 J BORE</b>																
<b>PU1.5-35 J BORE</b>																
<b>PU1.5-40 J BORE</b>																
<b>PU1.5-50 J BORE</b>																
<b>PU1.5-60 J BORE</b>																
<b>PU1.5-80 J BORE</b>																
<b>PU2-20 J BORE</b>																
<b>PU2-25 J BORE</b>																
<b>PU2-30 J BORE</b>																
<b>PU2-35 J BORE</b>																
<b>PU2-40 J BORE</b>																
<b>PU2-50 J BORE</b>																
<b>PU2-60 J BORE</b>																

**[Caution on J series]** ① As available-on-request products, requires a lead-time for shipping within 2 working-days (excludes the day ordered), after placing an order.

- Please allow additional shipping time to get to your local distributor.
- Number of products we can process for one order is 1 to 20 units. For quantities of 21 or more pieces, we need to quote price and lead time.
  - Keyways are made according to JIS B1301 standards, J9 tolerance.
  - Certain products which would otherwise have a very long tapped hole are counterbored to reduce the length of the tap.
  - For products having a tapped hole, a set screw is included.