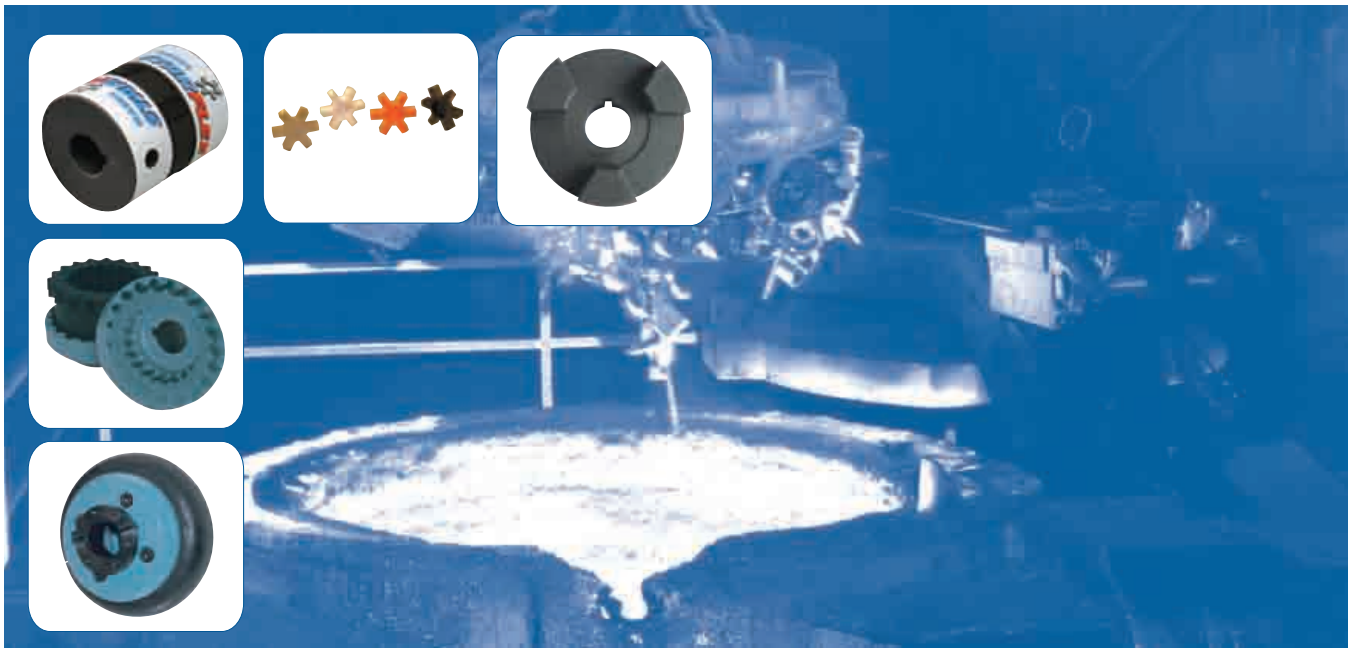
COUPLINGS

- Torsional softness (absorbs shock and vibration)
- Allows angular misalignment between shafts
- Used for most industrial applications

GENERAL CHARACTERISTICS

	Starflex	4-Flex	Maskaflex
Torque (in.lbs)	3.5 - 6 228	60 - 47 268	900 - 82 500
Max. HP/100 RPM	9.9	18	130.9
Torsional wind-up (deg.)	-	7° - 15°	3° - 7°
Angular misalignment (deg.)	1/2° - 1°	1/4°-1°	4°
Parallel misalignment (inch.)	0.010 - 0.015	0.010 - 0.040	0.047 - 0.203
Axial permissiveness	-	limited compressibility	0.063" - 0.266"
Sizes available	035 - 225	3 - 13*	50 - 200
Elements available	Nitrile Rubber (NBR)	EPDM	Natural Rubber (NR)
	Urethane		
	Hytrel	Hytrel	
	Bronze		

* Sizes 11-13 in progress



MASKA FLEXIBLE COUPLING SELECTION

FOR ALL MASKA COUPLING TYPES

Selection Process:

We will present two different ways of selecting the proper coupling – namely, the torque design and the HP design.

1. Determine the appropriate Coupling Series and Element material

Using the **General Characteristics** chart (pg. 125), determine which coupling series would be more appropriate for your application. From this information, you may have to choose the proper element material according to the related **Element Characteristics** chart (Starflex pg. 132; 4-Flex pg. 151).

2. Determine the appropriate Service Factor

Using the **Application Service Factors** chart (pgs 129-130) and the **Driver Service Factor Adders** chart (pg. 128), determine the Service Factor that corresponds the closest to your application.

3. a) Determine the Torque Design

$$\text{Torque Design} = \frac{(\text{HP} \times \text{Service Factor} \times 63025)}{\text{RPM}}$$

3 b) Determine the HP Design per 100 RPM

$$\text{HP per 100 RPM} = \frac{(\text{HP} \times \text{Service Factor} \times 100)}{\text{RPM}}$$

4 Select the Coupling Size

Using the **Coupling Ratings & Misalignment** charts, locate either the Torque or the HP per 100 RPM columns. As the service factor has already been considered, use the chart with a service factor of 1. Skim this column to the first entry where the torque value or the HP per 100 RPM value is greater or equal to the value calculated in step 3. Once this value is located, refer to the corresponding coupling size in the first column of the chart. Refer to the Maximum RPM and Misalignment values to validate that the application requirements are met. If the requirements are not met at this point, another coupling type may be required for the application. Contact our technical support for assistance, if needed.

5. Verify the driver/driven shaft sizes

Using the proper coupling **Dimensions** chart, verify that your driver and driven shaft dimensions are smaller or equal to the maximum bore size available on the coupling selected. If the coupling bore size is not large enough for the shaft diameter, select the next largest coupling that will fit the driver/driven shaft diameter.

SELECTION EXAMPLE:

A coupling is needed to join a 5 HP electric high torque motor operating at 1750 RPM to an outdoor agricultural belt conveyor. The shaft size of the motor is 1 1/8" and the conveyor is 1 3/16".

1. Determine the appropriate Coupling Series and Element material

According to the **General Characteristics** chart, the proper series to use would be the MASKA STARFLEX to get the smallest back lash. According to the **Element Characteristics** chart, Urethane would probably be the best choice for this application.

MASKA FLEXIBLE COUPLING SELECTION CONTINUED

2. Determine the appropriate Service Factor

To calculate the appropriate service factor to use with your coupling selection, refer to the **Application Service Factor** chart (pgs 129-130) and the **Driver Service Factor Adders** chart (pg.128). To obtain the Service Factor, the Driver Service Factor adder has to be added (1) to the Application Service Factor. To calculate the Service Factor for a MASKA STARFLEX used on a belt conveyor driven by a High Torque AC Motor, the application service factor is 1.20 and the driver service factor adder is 0.25. So, the service factor will be 1.20 + 0.25 = 1.45.

3 a) Determine the Torque Design

$$\text{Torque Design} = \frac{\text{HP x Service Factor x 63025}}{\text{RPM}} = .$$

$$\text{Torque Design} = \frac{5 \times 1.45 \times 63025}{1750} = \textbf{261.10 in-lbs}$$

OR

3 b) Determine the HP Design per 100 RPM

$$\text{HP per 100 RPM} = \frac{\text{HP x Service Factor x 100}}{\text{RPM}}$$

$$\text{HP per 100 RPM} = \frac{5 \times 1.45 \times 100}{1750} = \textbf{0.414 HP per 100 RPM}$$

4. Select the Coupling size

Using the **Coupling Ratings & Misalignment** charts for the MASKA STARFLEX Urethane Element, locate either the Torque or the HP per 100 RPM columns with a service factor of 1. Skim down this column to the first item that is greater or equal to the Design Torque: 261.10 in-lbs. or to the HP per 100 RPM: 0.414 HP. For this application, the L095 coupling with a Nominal Torque rating of 291 in-lbs. and a HP per 100 RPM of 0.462 HP is the proper coupling.

According to this chart, the maximum RPM of 1750 on the electric motor does not exceed the 9000 RPM maximum allowed for the L095 sized coupling with a Urethane insert.

5. Verify the driver/driven shaft sizes

The electric motor has a shaft size of 1 1/8" and the conveyor has a shaft size of 1 3/16". Because the maximum bore of the L095 is less than the conveyor shaft size, the L095 coupling is insufficient for this application. Continuing down the maximum bore column in the chart, the L099 size has a maximum bore size of 1 3/16" which is able to accommodate the driver/driven shaft sizes.

Therefore: The required coupling size for this application is a MASKA STARFLEX L099 with a Urethane Element.