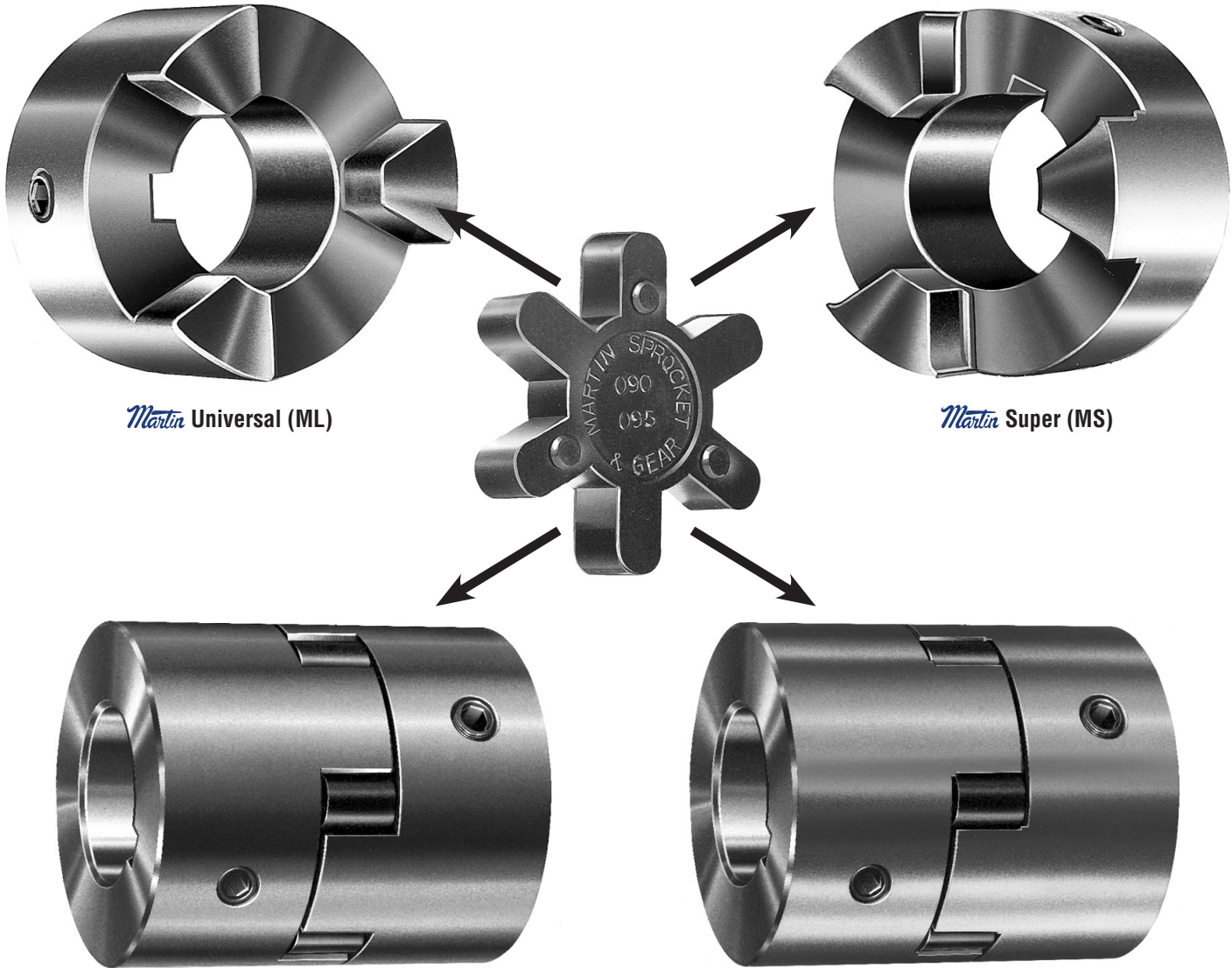


# Flexible Jaw Couplings



*Martin* Universal (ML)

*Martin* Super (MS)

Now *Martin* Offers Two Styles

The *Martin* Super — Higher Horsepower

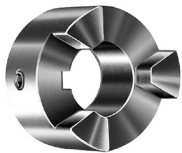
The *Martin* Universal — Completely Interchangeable

- No Lubrication
- Easy Installation
- No Metal to Metal Contact
- Resistant to oil, dirt, sand, moisture, grease
- Easy inspection of load carrying Spider
- Flexibility of angular or parallel misalignment of shafts by Buna-N Spider member permits smooth "Power Transmission"

## Jaw Coupling Selection Procedure

- Determine Service Factor by Matching Driven Unit with Prime Mover in Service Factor Guide.
- Multiply Service Factor by Driven Unit or Motor HP to Obtain Adjusted HP.
- Select Flexible Coupling with Horsepower Capacity Equal to or Greater than Adjusted HP.

| Service Factor Guide  | Prime Mover                     |   |   |
|---|---------------------------------|---|---|
|   | Electric Motor or Steam Turbine | Gasoline or Diesel Engine, 6 or More Cyl. | Gasoline or Diesel Engine, Less Than 6 Cyl. |
| <b>Driven Unit (Machinery)</b>  |                                 |   |   |
| <b>Light:</b> Uniform or steady load never exceeding horsepower rating, infrequent starting. Agitators, Blowers, Conveyors, Evaporators, Fans, Generators, Centrifugal Pumps, Stokers   | 1.0                             | 1.5                                       | 2.0   |
| <b>Moderate:</b> Heavy inertia, moderate shock, frequent starting; peak loads do not exceed 125 per cent average horsepower. Uneven load. Beaters, Rotary Pumps and Compressors, Cranes, Elevators, Mine and Propellor Fans, Generators, Pulp Grinders, Hoists, Kilns, Machine Tools, Mixers, Gear Pumps, Woodworking Machines    | 1.5                             | 2.0                                       | 2.5   |
| <b>Heavy:</b> Heavy shock conditions or frequent reversing. Peak loads do not exceed 150 per cent average horsepower. Uneven load. Reciprocating Pumps and Compressors, Crushers, Freight and Passenger Elevators, Mills (Hammer, Ball, Rolling, Turf, Flour), Vibrating Screens, Winches, Wire Drawing Machines, Punches, Shears | 2.0                             | 2.5                                       | 3.0   |



**Bore Tolerances:**  
 0.5 – 1.75 + 0.001 – 0.000  
 1.8125 – 2.625 + 0.0015 – 0.0000

## Martin ML (Universal Series) — Torque and Horsepower Ratings

| Catalog Number | Stainless Steel Catalog Number | Torque Rating lb — in |         | Buna-N Horsepower Capacity at Various RPM |      |      |      |       | Max. Bore | (Each) Weight |
|----------------|--------------------------------|-----------------------|---------|---|------|------|------|-------|-----------|---------------|
|                |                                | Buna-N                | Hytrel® | 100                                       | 300  | 1200 | 1800 | 3600  |           |               |
| ML035          | ML035SS                        | 3.5                   | —       | 0.006                                     | 0.02 | 0.07 | 0.10 | 0.20  | 0.375     | 0.10          |
| ML050          | ML050SS                        | 31.5                  | 94.5    | 0.05                                      | 0.15 | 0.60 | 0.9  | 1.8   | 0.625     | 0.15          |
| ML070          | ML070SS                        | 42                    | 126     | 0.07                                      | 0.21 | 0.84 | 1.2  | 2.5   | 0.750     | 0.31          |
| ML075          | ML075SS                        | 81                    | 242     | 0.13                                      | 0.39 | 1.56 | 2.3  | 4.7   | 0.875     | 0.45          |
| ML090          | ML090SS                        | 140                   | 420     | 0.22                                      | 0.66 | 2.64 | 4.0  | 7.9   | 1.125     | 0.75          |
| ML095          | ML095SS                        | 189                   | 567     | 0.30                                      | 0.90 | 3.6  | 5.4  | 10.8  | 1.125     | 0.89          |
| ML099          | ML099SS                        | 290                   | 870     | 0.46                                      | 1.4  | 5.5  | 8.3  | 16.6  | 1.375     | 1.02          |
| ML100          | ML100SS                        | 416                   | 1248    | 0.66                                      | 2.0  | 7.9  | 11.9 | 23.8  | 1.375     | 1.48          |
| ML110          | ML110SS                        | 756                   | 2268    | 1.2                                       | 3.6  | 14.4 | 21.6 | 43.2  | 1.625     | 3.18          |
| ML150          | ML150SS                        | 1197                  | 3591    | 1.9                                       | 5.7  | 22.8 | 34.2 | 68.4  | 1.875     | 4.83          |
| ML190          | ML190SS                        | 1512                  | 4536    | 2.4                                       | 7.2  | 28.8 | 43.2 | 86.4  | 2.125     | 7.65          |
| ML225          | ML225SS                        | 2268                  | 6804    | 3.6                                       | 10.8 | 43.2 | 64.8 | 129.6 | 2.625     | 10.66         |

## Martin MS (Super Series) — Torque and Horsepower Ratings

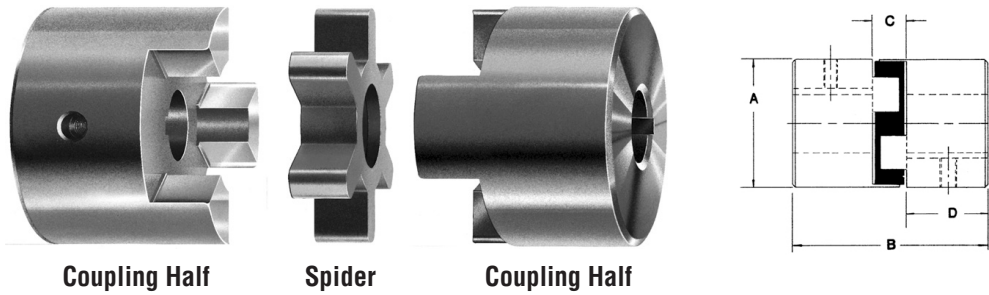
| Catalog Number | Torque Rating lb — in |         | Buna-N Horsepower Capacity at Various RPM |      |      |      |       | Max. Bore | (Each) Weight |
|----------------|-----------------------|---------|---|------|------|------|-------|-----------|---------------|
|                | Buna-N                | Hytrel® | 100                                       | 300  | 1200 | 1800 | 3600  |           |               |
| MS050          | 37.3                  | 112     | 0.06                                      | 0.18 | 0.71 | 1.0  | 2.1   | 0.625     | 0.13          |
| MS070          | 59.4                  | 178     | 0.09                                      | 0.28 | 1.1  | 1.7  | 3.4   | 0.750     | 0.25          |
| MS075          | 157                   | 471     | 0.25                                      | 0.75 | 3.0  | 4.5  | 8.9   | 0.875     | 0.53          |
| MS090          | 241                   | 723     | 0.38                                      | 1.1  | 4.6  | 6.9  | 13.7  | 1.125     | 0.58          |
| MS095          | 241                   | 723     | 0.38                                      | 1.1  | 4.6  | 6.9  | 13.7  | 1.125     | 0.70          |
| MS099          | 512                   | 1536    | 0.81                                      | 2.4  | 9.7  | 14.6 | 29.2  | 1.325     | 1.12          |
| MS100          | 512                   | 1536    | 0.81                                      | 2.4  | 9.7  | 14.6 | 29.2  | 1.325     | 1.43          |
| MS110          | 1014                  | 3042    | 1.6                                       | 4.8  | 19.3 | 28.9 | 57.8  | 1.325     | 3.24          |
| MS150          | 1630                  | 4890    | 2.6                                       | 7.7  | 31.0 | 46.5 | 93.0  | 1.875     | 4.76          |
| MS190          | 2450                  | 7350    | 3.9                                       | 11.6 | 46.6 | 69.9 | 139.7 | 2.125     | 7.66          |
| MS225          | 2920                  | 8760    | 4.6                                       | 13.9 | 55.5 | 83.2 | 166.5 | 2.625     | 10.76         |

NOTE: Above HP capacities are for Buna-N rubber spider and service factor of one. When Hytrel spider is used multiply capacities by three.

**Misalignment Capacities: Angular up to 1°, Parallel up to .015 inches.**

Hytrel is a registered trademark of E.I. DuPont & Co.

# Stock Jaw Couplings



## Dimensions

| Catalog Number | Hub Dia. | Overall Length | Distance Between Flanges | Length Thru Bore | Bore |       | Weight (lb) |
|----------------|----------|----------------|--------------------------|------------------|------|-------|-------------|
|                |          |                |                          |                  | Min. | Max.  |             |
|                |          |                |                          |                  | A    | B     |             |
| ML035          | .625     | .813           | .281                     | .266             | .125 | .375  | .07         |
| ML or MS050    | 1.167    | 1.719          | .469                     | .625             | .25  | .625  | .13         |
| ML or MS070    | 1.375    | 2              | .5                       | .75              | .25  | .75   | .25         |
| ML or MS075    | 1.75     | 2.125          | .5                       | .813             | .25  | .875  | .44         |
| ML or MS090    | 2.125    | 2.125          | .5                       | .813             | .25  | 1.125 | .69         |
| ML or MS095    | 2.125    | 2.5            | .5                       | 1                | .438 | 1.125 | .84         |
| ML or MS099    | 2.531    | 2.875          | .75                      | 1.167            | .5   | 1.375 | 1.19        |
| ML or MS100    | 2.531    | 3.5            | .75                      | 1.375            | .5   | 1.375 | 1.47        |
| ML or MS110    | 3.313    | 4.25           | .875                     | 1.688            | .5   | 1.625 | 3.20        |
| ML or MS150    | 3.75     | 4.5            | 1                        | 1.75             | .625 | 1.875 | 4.50        |
| ML or MS190    | 4.5      | 4.875          | 1                        | 1.938            | .75  | 2.125 | 8.25        |
| ML or MS225    | 5        | 5.375          | 1                        | 2.188            | .75  | 2.625 | 12.00       |

Bore sizes are standard in .0625" increments from minimum to maximum bore range and have keyway and set screw except as shown below:

- .125 through .375 Bore — No KW — No SS
- #050 — .438 through .625 Bore — No KW — 1-SS
- #070, 075, 090, 095 — .438 and .5 Bore — No KW — 1-SS
- #099, 100, 110 — .5 Bore — No KW — No SS
- #150 — .625 Bore — No KW — No SS
- #190, 225 — .75 Bore — No KW — No SS

NOTE: In each coupling size a min. plain bore is available that can be used to make special bores such as spline, hex, metric, or other shapes or sizes.

For Standard Keyway sizes see *Martin* Catalog, page E-158 and E-159.

## Coupling Selection Chart for 60 Hz Nema Motor Frames Based on Buna-N (Rubber) Spider ★†

| Shaft Dia. | Nema Frame                    | Coupling Size | Max. HP @ RPM |     |      |     |      |     |
|------------|-------------------------------|---------------|---------------|-----|------|-----|------|-----|
|            |                               |               | 1140          |     | 1725 |     | 3450 |     |
|            |                               |               | MS            | ML  | MS   | ML  | MS   | ML  |
| .375       | 42                            | 050           | .5            | .5  | 1    | .75 | 2    | 1.5 |
| .5         | 48                            | 050           | .5            | .5  | 1    | .75 | 2    | 1.5 |
| .625       | 56,56 H                       | 050           | .5            | .5  | 1    | .75 | 2    | 1.5 |
| .75        | 66                            | 070           | 1             | .75 | 1.5  | 1   | 3    | 2   |
| .875       | 56HZ, 143T, 145T              | 075           | 2             | 1   | 3    | 2   | 7.5  | 3   |
|            | 182, 184                      | 090           | 3             | 2   | 5    | 3   | 10   | 7.5 |
| 1.125      | 182T, 184T, 213               | 095           | 3             | 3   | 5    | 5   | 10   | 10  |
|            | 215                           | 099           | 7.5           | 5   | 10   | 7.5 | 25   | 15  |
| 1.375      | 213T, 215T, 245U, 256U        | 100           | 7.5           | 7.5 | 10   | 10  | 25   | 20  |
| 1.625      | 254T, 256T, 248U, 286U        | 110           | 15            | 10  | 25   | 20  | 50   | 40  |
| 1.875      | 284T, 286T, 324U, 326U, 326TS | 150           | 30            | 20  | 40   | 30  | 75   | 60  |
| 2.125      | 324T, 326T, 364U, 365U        | 190           | 40            | 25  | 60   | 40  | 125  | 75  |
| 2.375      | 364T, 365T                    | 225           | 50            | 40  | 75   | 60  | 150  | 100 |

NOTE: Coupling Sizes are based on the rated torque, max. bore and a have a service factor of 1.0.

★ When using Hytrel or Bronze spider multiply above horsepower ratings by 3.

† When using Urethane spider multiply above horsepower ratings by 1.5.

## Spiders – Buna-N (Rubber) and Hytrel

| Catalog Number | Accommodates Coupling |                 | Net Weight lb |        |
|----------------|-----------------------|-----------------|---------------|--------|
|                | Buna-N                | Hytrel          | Buna-N        | Hytrel |
| SRL035         | —                     | ML035           | .009          | —      |
| SRL050         | SHL050                | M 050 — MS 050  | .013          | .013   |
| SRL070         | SHL070                | ML070 — MS 070  | .017          | .017   |
| SRL075         | SHL075                | ML075 — MS 075  | .03           | .03    |
| SRL090         | SHL090                | ML or MS090-095 | .04           | .04    |
| SRL099         | SHL099                | ML or MS099-100 | .07           | .07    |
| SRL110         | SHL110                | ML110 — MS110   | .14           | .14    |
| SRL150         | SHL150                | M150 — MS150    | .21           | .21    |
| SRL190         | SHL190                | ML190 — MS190   | .27           | .27    |
| SRL225         | SHL225                | ML225 — MS225   | .41           | .41    |

Urethane spiders available. Please consult factory.

## Spiders – Urethane† and Bronze ★

| Catalog Number | Accommodates Coupling |                  | Net Weight lb |        |
|----------------|-----------------------|------------------|---------------|--------|
|                | Urethane              | Bronze           | Urethane      | Bronze |
| —              | SBL035                | ML 035           | —             | 0.05   |
| SUL050         | SBL050                | ML050 — MS050    | .013          | 0.08   |
| SUL070         | SBL070                | ML070 — MS070    | .017          | 0.06   |
| SUL075         | SBL075                | ML075 — MS075    | .03           | 0.15   |
| SUL090/095     | SBL090/095            | ML or MS 090-095 | .04           | 0.17   |
| SUL 099/100    | SBL099/100            | ML or MS 099-100 | .07           | 0.50   |
| SUL110         | SBL110                | ML110 — MS110    | .14           | 0.62   |
| SUL150         | SBL150                | ML150 — MS150    | .21           | 1.00   |
| SUL190         | SBL190                | ML190 — MS190    | .27           | 1.30   |
| SUL225         | SBL225                | ML225 — MS225    | .41           | 1.60   |

★ Bronze spiders available as Made-to-Order.



Metric Bore Sizes Available  
Consult Factory