

## GAS - jaw coupling: introduction



- Made in steel fully turned with standard phosphating treatment.
- Several elastomer hardnesses available.
- High compensation of misalignments.
- Vibration dampening.
- Statically balanced.
- Modularity of the components, with different assembly versions.

### ON REQUEST



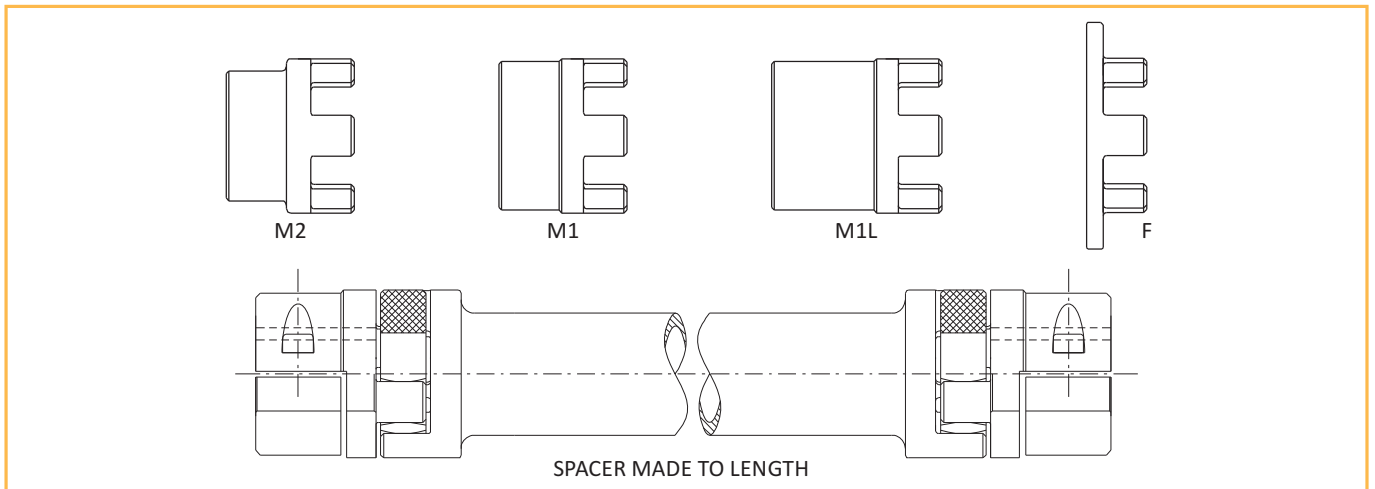
- Conformity to directive ATEX possible.
- Specific treatments or version fully in stainless steel, aluminium, possible.
- Manufacturing made to length and customizations for specific needs.
- Connection to ComInTec TORQUE LIMITERS range possible.

The coupling GAS/SG is an elastomeric coupling with compact dimensions composed of two hubs made in steel UNI EN10083/98, fully turned with one elastomer.

The hub's tooth profile is designed to allow the elastomeric element to work only by compression and not in shear, allowing for long life of the coupling in high reversal or load applications.

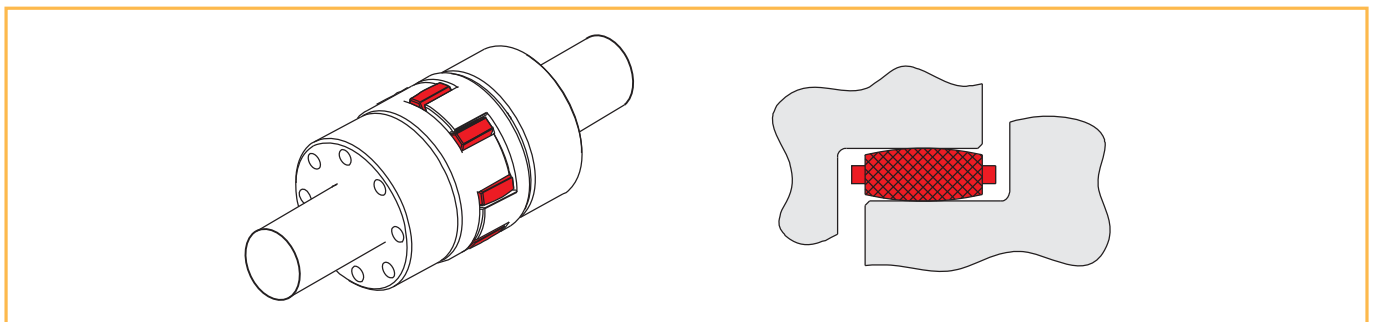
The GAS base series are available in several hub versions to allow an assembly to suit the application.

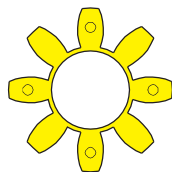
- M1 hub base hub for any kind of connection
- M1L extended hub to connect long shafts
- M2 hub with reduced external diameter for assembly in compact spaces.
- F flange for connection shaft-flange
- Customized spacer for connection of distant shafts



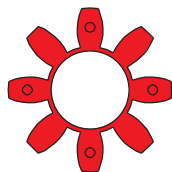
### DESCRIPTION OF THE ELASTOMERIC ELEMENT

The fundamental item of this coupling is the elastomeric element, made in different grades of hardness for different needs and applications. The elastomer is manufactured from elements to resist ageing, scoring, fatigue, hydrolysis and UV radiations, promoting long life operation, resisting main chemical agents, like ozone, oils, greases and hydrocarbons.

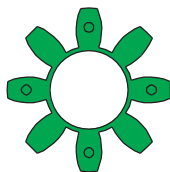




Elastomeric element  
92 Sh-A



Elastomeric element  
98 Sh-A



Elastomeric element  
64 Sh-D

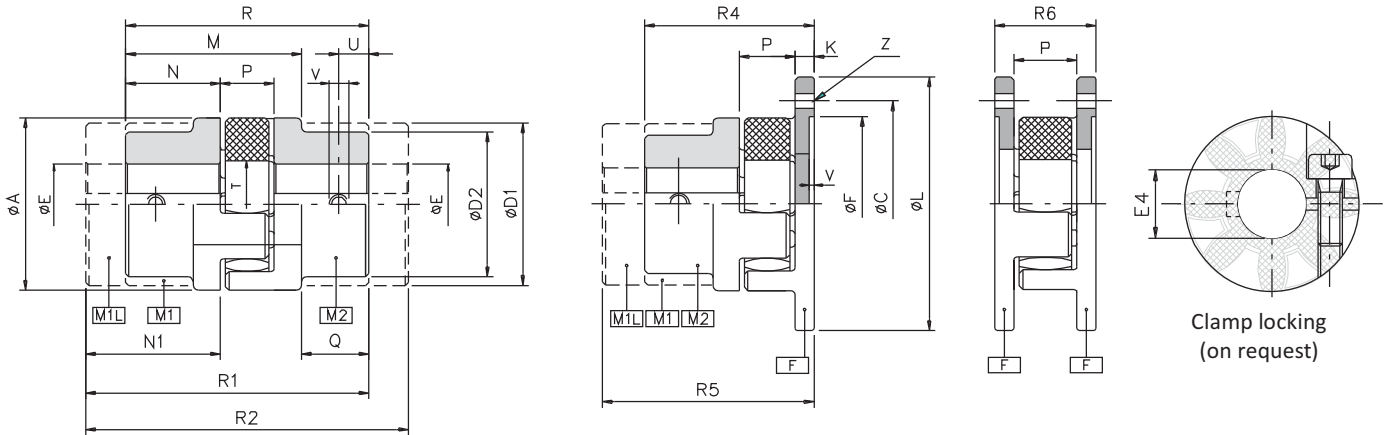
## ELASTOMERIC ELEMENT: TECHNICAL CHARACTERISTICS

| Hardness [Shore] | Material      | Color  | Allowed temperature [°C] |                   | Uses   |
|------------------|---------------|--------|--------------------------|-------------------|--|
|                  |               |        | Working                  | For short periods |  |
| 92 Sh-A          | Polyurethane  | Yellow | -40 ÷ +90                | -50 ÷ +120        | - low and medium power<br>- systems with frequent stop, starts |
| 98 Sh-A          | Thermoplastic | Red    | -40 ÷ +125               | -50 ÷ +150        | - high transmission torque<br>- high temperature range         |
| 64 Sh-D          | Polyurethane  | Green  | -20 ÷ +110               | -30 ÷ +120        | - high torsional rigidity<br>- internal combustion motors      |

## ELASTOMERIC ELEMENT: PERFORMANCE CHARACTERISTICS

| Size          | Hardness [Sh] | Torque [Nm] |      |                  | Misalignments        |              |               | Rigidity $R_t$ [Nm/rad•10 <sup>3</sup> ] |                |                |                 |
|---------------|---------------|-------------|------|------------------|----------------------|--------------|---------------|--|----------------|----------------|-----------------|
|               |               | Nom         | Max  | Alternate motion | angular $\alpha$ [°] | axial X [mm] | radial K [mm] | 25% nom torque                           | 50% nom torque | 75% nom torque | 100% nom torque |
| 00<br>(19/24) | 92 Sh-A       | 10          | 20   | 2,6              | 1° 18'               | 1,0          | 0,4           | 0,62                                     | 0,73           | 0,93           | 1,18            |
|               | 98 Sh-A       | 17          | 34   | 4,4              |                      |              |               | 0,92                                     | 1,14           | 1,33           | 1,49            |
|               | 64 Sh-D       | 21          | 42   | 5,5              |                      |              |               | 1,97                                     | 3,33           | 4,40           | 5,37            |
| 0<br>(24/28)  | 92 Sh-A       | 35          | 70   | 9                | 1° 18'               | 1,0          | 0,8           | 2,44                                     | 2,71           | 3,66           | 4,43            |
|               | 98 Sh-A       | 60          | 120  | 16               |                      |              |               | 3,64                                     | 4,74           | 5,47           | 5,92            |
|               | 64 Sh-D       | 75          | 150  | 19,5             |                      |              |               | 5,50                                     | 9,35           | 12,40          | 15,10           |
| 1<br>(28/38)  | 92 Sh-A       | 95          | 190  | 25               | 1° 18'               | 1,2          | 1,0           | 4,10                                     | 5,73           | 6,62           | 7,65            |
|               | 98 Sh-A       | 160         | 320  | 42               |                      |              |               | 6,08                                     | 7,82           | 8,88           | 10,68           |
|               | 64 Sh-D       | 200         | 400  | 52               |                      |              |               | 10,10                                    | 17,00          | 22,55          | 27,50           |
| 2<br>(38/45)  | 92 Sh-A       | 190         | 380  | 49               | 1° 18'               | 1,4          | 1,0           | 8,69                                     | 10,75          | 12,55          | 14,57           |
|               | 98 Sh-A       | 325         | 650  | 85               |                      |              |               | 10,95                                    | 14,13          | 18,25          | 21,90           |
|               | 64 Sh-D       | 405         | 810  | 105              |                      |              |               | 25,75                                    | 43,50          | 57,50          | 70,10           |
| 3<br>(42/55)  | 92 Sh-A       | 265         | 530  | 69               | 1° 18'               | 1,6          | 1,0           | 11,52                                    | 14,66          | 17,27          | 21,50           |
|               | 98 Sh-A       | 450         | 900  | 117              |                      |              |               | 16,34                                    | 21,41          | 25,17          | 30,29           |
|               | 64 Sh-D       | 560         | 1120 | 145              |                      |              |               | 29,30                                    | 49,50          | 65,45          | 79,85           |
| 4<br>(48/60)  | 92 Sh-A       | 310         | 620  | 81               | 1° 18'               | 1,7          | 1,4           | 11,85                                    | 18,72          | 21,34          | 24,52           |
|               | 98 Sh-A       | 525         | 1050 | 137              |                      |              |               | 17,97                                    | 24,39          | 27,68          | 34,14           |
|               | 64 Sh-D       | 655         | 1310 | 170              |                      |              |               | 35,10                                    | 59,20          | 78,30          | 95,50           |
| 5<br>(55/70)  | 92 Sh-A       | 410         | 820  | 105              | 1° 18'               | 1,8          | 1,4           | 16,63                                    | 26,27          | 29,94          | 34,42           |
|               | 98 Sh-A       | 685         | 1370 | 178              |                      |              |               | 24,88                                    | 33,77          | 38,33          | 47,27           |
|               | 64 Sh-D       | 825         | 1650 | 215              |                      |              |               | 39,65                                    | 66,90          | 88,55          | 107,90          |
| 6<br>(65/75)  | 92 Sh-A       | 625         | 1250 | 163              | 1° 18'               | 2,0          | 1,4           | 27,14                                    | 38,00          | 40,71          | 50,67           |
|               | 98 Sh-A       | 940         | 1880 | 245              |                      |              |               | 36,00                                    | 48,01          | 55,55          | 66,47           |
|               | 64 Sh-D       | 1175        | 2350 | 305              |                      |              |               | 55,54                                    | 93,65          | 124,00         | 150,10          |
| 7<br>(75/90)  | 92 Sh-A       | 975         | 1950 | 254              | 1° 18'               | 2,5          | 1,8           | 54,17                                    | 70,10          | 89,38          | 103,63          |
|               | 98 Sh-A       | 1465        | 2930 | 381              |                      |              |               | 72,52                                    | 92,30          | 112,81         | 123,07          |
|               | 64 Sh-D       | 2410        | 4820 | 625              |                      |              |               | 91,21                                    | 153,87         | 203,51         | 249,12          |
| 8<br>(90/100) | 92 Sh-A       | 2400        | 4800 | 624              | 1° 18'               | 2,8          | 1,8           | 88,99                                    | 113,90         | 164,29         | 177,98          |
|               | 98 Sh-A       | 3600        | 7200 | 936              |                      |              |               | 127,47                                   | 172,99         | 201,82         | 230,65          |
|               | 64 Sh-D       | 4500        | 9000 | 1170             |                      |              |               | 246,85                                   | 415,53         | 550,13         | 672,87          |

# GAS - jaw coupling: technical data



## DIMENSIONS

| Size       | A   | D1  | D2  | E H7 max | E4 H7 max | M   | N   | P  | Q    | R   | T   | U  | V   | N1  | R1  | R2  | C   | F H7 | G   | L   | K  | R4  | R5  | Z          | R6 |
|------------|-----|-----|-----|----------|-----------|-----|-----|----|------|-----|-----|----|-----|-----|-----|-----|-----|------|-----|-----|----|-----|-----|------------|----|
| 00 (19/24) | 40  | 40  | 32  | 25       | 20        | -   | 25  | 16 | 16,5 | 66  | 18  | 10 | M5  | 37  | 78  | 90  | 50  | 40   | 1,5 | 58  | 8  | 49  | 61  | n°5 x ø4,5 | 32 |
| 0 (24/28)  | 55  | 53  | 40  | 35       | 30        | 54  | 30  | 18 | 18,5 | 78  | 27  | 10 | M5  | 50  | 98  | 118 | 65  | 55   | 1,5 | 74  | 8  | 56  | 76  | n°5 x ø4,5 | 34 |
| 1 (28/38)  | 65  | 63  | 48  | 40       | 35        | 62  | 35  | 20 | 24   | 90  | 30  | 15 | M8  | 60  | 115 | 140 | 80  | 65   | 1,5 | 92  | 10 | 65  | 90  | n°6 x ø6,6 | 40 |
| 2 (38/45)  | 80  | 78  | 66  | 48       | 45        | 77  | 45  | 24 | 33   | 114 | 38  | 15 | M8  | 70  | 139 | 164 | 95  | 80   | 1,5 | 107 | 10 | 79  | 104 | n°6 x ø6,6 | 44 |
| 3 (42/55)  | 95  | 93  | 75  | 55       | 50        | 86  | 50  | 26 | 38   | 126 | 46  | 20 | M8  | 75  | 151 | 176 | 115 | 95   | 2   | 132 | 12 | 88  | 113 | n°6 x ø9   | 50 |
| 4 (48/60)  | 105 | 103 | 85  | 62       | 60        | 95  | 56  | 28 | 45   | 140 | 51  | 20 | M8  | 80  | 164 | 188 | 125 | 105  | 2   | 142 | 12 | 96  | 122 | n°8 x ø9   | 52 |
| 5 (55/70)  | 120 | 118 | 98  | 74       | 65        | 108 | 65  | 30 | 49   | 160 | 60  | 20 | M10 | 90  | 185 | 210 | 145 | 120  | 2   | 164 | 16 | 111 | 136 | n°8 x ø11  | 62 |
| 6 (65/75)  | 135 | 133 | 115 | 80       | 70        | 124 | 75  | 35 | 61   | 185 | 68  | 20 | M10 | 100 | 210 | 235 | 160 | 135  | 2   | 179 | 16 | 126 | 153 | n°10 x ø11 | 67 |
| 7 (75/90)  | 160 | 158 | 135 | 95       | -         | 141 | 85  | 40 | 69   | 210 | 80  | 25 | M10 | 110 | 235 | 260 | 185 | 160  | 2,5 | 208 | 19 | 144 | 169 | n°10 x ø14 | 78 |
| 8 (90/100) | 200 | 180 | 160 | 110      | -         | 164 | 100 | 45 | 81   | 245 | 100 | 30 | M12 | 125 | 270 | 295 | 225 | 200  | 3   | 248 | 20 | 165 | 190 | n°12 x ø14 | 85 |

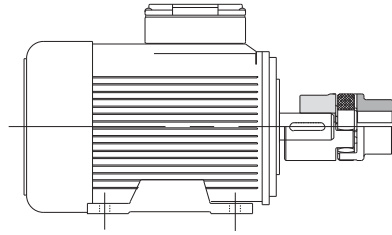
## TECHNICAL CHARACTERISTICS

| Size       | Torque [Nm] | Weight [Kg] |      |     |         | Inertia [Kgm²] |         |         |          | Max speed [Rpm] | Clamp locking |                        |
|------------|-------------|-------------|------|-----|---------|----------------|---------|---------|----------|-----------------|---------------|------------------------|
|            |             | M1          | M2   | F   | Element | M1             | M2      | F       | Element  |                 | Screw         | Tightening torque [Nm] |
| 00 (19/24) | see page 21 | 0,2         | 0,2  | 0,1 | 0,009   | 0,00005        | 0,00003 | 0,00007 | 0,000003 | 19000           | M5            | 6,2                    |
| 0 (24/28)  |             | 0,4         | 0,3  | 0,3 | 0,020   | 0,00020        | 0,00010 | 0,00014 | 0,00001  | 13500           | M6            | 10,5                   |
| 1 (28/38)  |             | 0,7         | 0,5  | 0,6 | 0,030   | 0,00042        | 0,00022 | 0,00044 | 0,00002  | 11800           | M8            | 25                     |
| 2 (38/45)  |             | 1,3         | 1,1  | 0,9 | 0,060   | 0,00131        | 0,00089 | 0,00121 | 0,00005  | 9500            | M8            | 25                     |
| 3 (42/55)  |             | 1,9         | 1,8  | 1,6 | 0,090   | 0,00292        | 0,00232 | 0,00246 | 0,00010  | 8000            | M10           | 69                     |
| 4 (48/60)  |             | 2,8         | 2,4  | 1,8 | 0,105   | 0,00483        | 0,00383 | 0,00302 | 0,00020  | 7100            | M12           | 120                    |
| 5 (55/70)  |             | 4,0         | 3,8  | 3,0 | 0,150   | 0,00825        | 0,00740 | 0,00603 | 0,00030  | 6300            | M12           | 120                    |
| 6 (65/75)  |             | 5,9         | 4,6  | 3,7 | 0,200   | 0,01682        | 0,01087 | 0,00912 | 0,00050  | 5600            | M12           | 120                    |
| 7 (75/90)  |             | 9,1         | 7,2  | 5,2 | 0,380   | 0,03933        | 0,02333 | 0,02110 | 0,00200  | 4750            | -             | -                      |
| 8 (90/100) |             | 17,0        | 12,5 | 8,3 | 0,650   | 0,10936        | 0,06036 | 0,07019 | 0,00400  | 3750            | -             | -                      |

## TORQUE PERMISSIBLE WITH CLAMP LOCKING

| Size       | Torque transmitted [Nm] according to the ø finished bore [mm] |   |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|------------|---|---|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|            | 6   | 8 | 10 | 11 | 12 | 14 | 15 | 16 | 18 | 19 | 20 | 22  | 24  | 25  | 28  | 30  | 32  | 35  | 38  | 40  | 42  | 45  | 48  | 50  | 55  | 60  | 65  | 70  |  |
| 00 (19/24) |   |   | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 25 | 25 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 0 (24/28)  |   |   |    |    | 43 | 44 | 44 | 45 | 46 | 47 | 47 | 49  | 50  | 51  | 53  | 54  |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 1 (28/38)  |   |   |    |    |    |    |    |    | 90 | 91 | 92 | 95  | 97  | 98  | 102 | 104 | 107 | 110 |     |     |     |     |     |     |     |     |     |     |  |
| 2 (38/45)  |   |   |    |    |    |    |    |    |    |    |    | 109 | 111 | 113 | 114 | 118 | 120 | 123 | 126 | 130 | 133 | 135 | 139 |     |     |     |     |     |  |
| 3 (42/55)  |   |   |    |    |    |    |    |    |    |    |    |     |     |     | 260 | 267 | 272 | 276 | 284 | 291 | 296 | 301 | 308 | 316 | 321 |     |     |     |  |
| 4 (48/60)  |   |   |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     | 449 | 456 | 463 | 474 | 484 | 491 | 509 | 528 |     |  |
| 5 (55/70)  |   |   |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     | 508 | 519 | 530 | 537 | 555 | 573 | 591 |     |  |
| 6 (65/75)  |   |   |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     | 564 | 575 | 582 | 600 | 618 | 636 | 654 |  |

# GAS and GAS/SG - jaw coupling: additional information



**MOTORS** ■

| Electric motor |                               | GAS    |        |         |         | GAS     |        |        |         | GAS     |         |        |        | GAS     |         |         |        |        |         |         |         |
|----------------|-------------------------------|--------|--------|---------|---------|---------|--------|--------|---------|---------|---------|--------|--------|---------|---------|---------|--------|--------|---------|---------|---------|
| Size           | Shaft                         | P (Kw) | C (Nm) | GAS     |         |         | P (Kw) | C (Nm) | GAS     |         |         | P (Kw) | C (Nm) | GAS     |         |         | P (Kw) | C (Nm) | GAS     |         |         |
|                |                               |        |        | 92 Sh-A | 98 Sh-A | 64 Sh-D |        |        | 92 Sh-A | 98 Sh-A | 64 Sh-D |        |        | 92 Sh-A | 98 Sh-A | 64 Sh-D |        |        | 92 Sh-A | 98 Sh-A | 64 Sh-D |
| 63             | ø11x23                        | -      | -      | -       | -       | -       | 0,06   | 0,7    | 01      | 01      | 01      | 0,12   | 0,88   | 01      | 01      | 01      | 0,18   | 0,62   | 01      | 01      | 01      |
|                |                               | -      | -      | -       | -       | -       | 0,09   | 1,1    |         |         |         | 0,18   | 1,30   |         |         |         | 0,25   | 0,86   |         |         |         |
| 71             | ø14x30                        | 0,09   | 1,4    | 01      | 01      | 01      | 0,18   | 2,0    | 01      | 01      | 01      | 0,25   | 1,80   | 01      | 01      | 01      | 0,37   | 1,30   | 01      | 01      | 01      |
|                |                               | 0,12   | 1,8    |         |         |         | 0,25   | 2,8    |         |         |         | 0,37   | 2,50   |         |         |         | 0,55   | 1,90   |         |         |         |
| 80             | ø19x40                        | 0,18   | 2,5    | 00      | 00      | 00      | 0,37   | 3,9    | 00      | 00      | 00      | 0,55   | 3,70   | 00      | 00      | 00      | 0,75   | 2,50   | 00      | 00      | 00      |
|                |                               | 0,25   | 3,5    |         |         |         | 0,55   | 5,8    |         |         |         | 0,75   | 5,10   |         |         |         | 1,10   | 3,70   |         |         |         |
| 90 S           | ø24x50                        | 0,37   | 5,3    | 00      | 00      | 00      | 0,75   | 8,0    | 00      | 00      | 00      | 1,10   | 7,50   | 00      | 00      | 00      | 1,50   | 5,00   | 00      | 00      | 00      |
| 90 L           | ø24x50                        | 0,55   | 7,9    | 00      | 00      | 00      | 1,10   | 12     | 0       | 0       | 0       | 1,50   | 10     | 00      | 00      | 00      | 2,20   | 7,40   | 00      | 00      | 00      |
| 100 L          | ø28x60                        | 0,75   | 11     | 0       | 0       | 0       | 1,50   | 15     | 0       | 0       | 0       | 2,20   | 15     | 0       | 0       | 0       | 3,00   | 9,80   | 0       | 0       | 0       |
|                |                               | 1,10   | 16     |         |         |         |        |        |         |         |         | 3,00   | 20     |         |         |         |        |        |         |         |         |
| 112 M          | ø28x60                        | 1,50   | 21     | 0       | 0       | 0       | 2,20   | 22     | 0       | 0       | 0       | 4,00   | 27     | 0       | 0       | 0       | 4,00   | 13     | 0       | 0       | 0       |
| 132 S          | ø38x80                        | 2,20   | 30     | 1       | 1       | 1       | 3,00   | 30     | 1       | 1       | 1       | 5,50   | 36     | 1       | 1       | 1       | 5,50   | 18     | 1       | 1       | 1       |
|                |                               |        |        |         |         |         |        |        |         |         |         |        |        |         |         |         | 7,50   | 25     |         |         |         |
| 132 M          | ø38x80                        | 3,00   | 40     | 1       | 1       | 1       | 4,00   | 40     | 1       | 1       | 1       | 7,50   | 49     | 1       | 1       | 1       | -      | -      | -       | -       | -       |
|                |                               |        |        |         |         |         | 5,50   | 55     |         |         |         |        |        |         |         |         | -      | -      |         |         |         |
| 160 M          | ø42x110                       | 4,00   | 54     | 2       | 2       | 2       | 7,50   | 75     | 2       | 2       | 2       | 11,00  | 72     | 2       | 2       | 2       | 11,00  | 35     | 2       | 2       | 2       |
|                |                               | 5,50   | 74     |         |         |         |        |        |         |         |         |        |        |         |         |         | 15,00  | 49     |         |         |         |
| 160 L          | ø42x110                       | 7,50   | 100    | 2       | 2       | 2       | 11,00  | 109    | 2       | 2       | 2       | 15,00  | 98     | 2       | 2       | 2       | 18,50  | 60     | 2       | 2       | 2       |
| 180 M          | ø48x110                       | -      | -      | -       | -       | -       | -      | -      | -       | -       | -       | 18,50  | 121    | 2       | 2       | 2       | 22     | 71     | 2       | 2       | 2       |
| 180 L          | ø48x110                       | 11,00  | 145    | 2       | 2       | 2       | 15,00  | 148    | 3       | 2       | 2       | 22     | 144    | 2       | 2       | 2       | -      | -      | -       | -       | -       |
| 200 L          | ø55x110                       | 15,00  | 198    | 3       | 3       | 3       | 18,50  | 181    | 3       | 3       | 3       | 30     | 196    | 3       | 3       | 3       | 30     | 97     | 3       | 3       | 3       |
|                |                               |        |        |         |         |         | 22,00  | 215    |         |         |         |        |        |         |         |         | 37     | 120    |         |         |         |
| 225 S          | ø55x110<br>ø60x140            | 18,50  | 244    | 4       | 3       | 3       | -      | -      | -       | -       | -       | 37     | 240    | 4       | 3       | 3       | -      | -      | -       | -       | -       |
|                |                               |        |        | 4       | 4       | 4       |        |        |         |         |         |        |        | 4       | 4       | 4       |        |        |         |         |         |
| 225 M          | ø55x110<br>ø60x140            | 22     | 290    | 4       | 3       | 3       | 30     | 293    | 4       | 3       | 3       | 45     | 292    | 4       | 3       | 3       | 45     | 145    | 3       | 3       | 3       |
|                |                               |        |        | 4       | 4       | 4       |        |        | 4       | 4       | 4       |        |        | 3       | 4       | 4       |        |        |         |         |         |
| 250 M          | ø60x140<br>ø65x140            | 30     | 392    | 6       | 4       | 4       | 37     | 361    | 5       | 4       | 4       | 55     | 356    | 5       | 4       | 4       | 55     | 177    | 4       | 4       | 4       |
|                |                               |        |        | 6       | 5       | 5       |        |        | 5       | 5       | 5       |        |        | 4       | 5       | 5       |        |        |         |         |         |
| 280 S          | ø65x140<br>ø75x140            | 37     | 483    | 6       | 5       | 5       | 45     | 438    | 6       | 5       | 5       | 75     | 484    | 6       | 5       | 5       | 75     | 241    | 5       | 5       | 5       |
| 280 M          | ø65x140<br>ø75x140            | 45     | 587    | 6       | 5       | 5       | 55     | 535    | 6       | 5       | 5       | 90     | 581    | 6       | 5       | 5       | 90     | 289    | 5       | 5       | 5       |
|                |                               |        |        | 6       | 6       | 6       |        |        | 6       | 6       | 6       |        |        | 5       | 6       | 6       |        |        |         |         |         |
| 315 S          | ø65x140<br>ø80x170            | 55     | 712    | 7       | 6       | 6       | 75     | 727    | 7       | 6       | 5       | 110    | 707    | 7       | 6       | 5       | 110    | 353    | 5       | 5       | 5       |
|                |                               |        |        |         |         |         |        |        | 7       | 6       | 6       |        |        | 7       | 6       | 6       |        |        | 5       | 6       | 6       |
| 315 M          | ø65x140<br>ø80x170            | 75     | 971    | 8       | 7       | 7       | 90     | 873    | 7       | 6       | 5       | 132    | 849    | 7       | 6       | 6       | 132    | 423    | 6       | 5       | 5       |
|                |                               |        |        |         |         |         |        |        | 7       | 6       | 6       |        |        |         |         |         |        |        | 6       | 6       | 6       |
| 315 L          | ø65x140<br>ø80x170<br>ø85x170 | 90     | 1170   | 8       | 7       | 7       | 110    | 1070   | 8       | 7       | 7       | 160    | 1030   | 8       | 7       | 7       | 160    | 513    | 6       | 5       | 5       |
|                |                               | 110    | 1420   | 8       | 8       | 8       | 132    | 1280   | 8       | 7       | 7       | 200    | 1290   |         |         |         | 200    | 641    | 7       | 6       | 6       |
|                |                               | 132    | 1710   | 8       | 8       | 8       | 160    | 1550   | 8       | 8       | 7       | -      | -      |         |         |         | -      | -      | -       | -       | -       |
| 315            | ø65x140<br>ø85x170            | 160    | 2070   | 8       | 8       | 8       | 200    | 1930   | 8       | 8       | 7       | 250    | 1600   | 8       | 8       | 7       | 250    | 802    | 7       | 6       | 6       |
|                |                               | 200    | 2580   | -       | 8       | 8       | 250    | 2410   | 8       | 8       | 8       | 315    | 2020   |         |         |         | 315    | 1010   | 8       | 7       | 6       |
| 355            | ø75x140<br>ø95x170            | -      | -      | -       | -       | -       | -      | -      | -       | -       | -       | 355    | 2280   | -       | 8       | 8       | 355    | 1140   | 8       | 7       | 7       |
|                |                               | 250    | 3220   | -       | 8       | 8       | 315    | 3040   | -       | 8       | 8       | 400    | 2570   | -       | 8       | 8       | 400    | 1280   | 8       | 7       | 7       |
|                |                               | 315    | 4060   | -       | -       | 8       | 400    | 3850   | -       | -       | 8       | 500    | 3210   | -       | 8       | 8       | 500    | 1600   | 8       | 8       | 7       |
| 400            | ø80x170<br>ø110x210           | 355    | 4570   | -       | -       | -       | 450    | 4330   | -       | -       | -       | 560    | 3580   | -       | -       | 8       | 560    | 1790   | 8       | 8       | 7       |
|                |                               | 400    | 5150   | -       | -       | -       | 500    | 4810   | -       | -       | -       | 630    | 4030   | -       | -       | 8       | 630    | 2020   |         |         |         |

# GAS & GAS/SG - jaw coupling: additional information

## DIMENSIONING

For pre-selection of the coupling's size you can use the generic formula indicated on page 5.

Having established the coupling's size to be used, it is possible to make other checks considering further parameters:

$$C_{nom} > C_{mot} \cdot f_T \cdot f_R$$

Considering the static torque:

$$C_{max} > C_{SM} \cdot \frac{J_{uti}}{J_{uti} + J_{mot}} \cdot K \cdot f_T \cdot f_A + C_{mot} \cdot f_T \cdot f_R$$

$$C_{max} > C_{SU} \cdot \frac{J_{mot}}{J_{uti} + J_{mot}} \cdot K \cdot f_T \cdot f_A + C_{mot} \cdot f_T \cdot f_R$$

Where:

- $C_{nom}$  = theoretic nominal torque of the coupling [Nm]
- $C_{mot}$  = nominal torque motor side [Nm]
- $C_{max}$  = maximum torque of the coupling [Nm]
- $C_{SU}$  = static torque user side [Nm]
- $C_{SM}$  = static torque motor side [Nm]
- $f_A$  = starting frequency factor
- $f_R$  = rigidity factor
- $f_T$  = thermic factor
- $J_{mot}$  = inertia motor side [Kgm<sup>2</sup>]
- $J_{uti}$  = inertia user side [Kgm<sup>2</sup>]
- $K$  = shock factor

In case of alternate motion, moreover:

$$C_{nom} > \frac{1}{M} \cdot C_{alt} \cdot f_F \cdot f_T \cdot f_R$$

Where:

- $C_{alt}$  = alternate system torque [Nm]
- $C_{nom}$  = theoretic nominal torque of the coupling [Nm]
- $f_F$  = resonance factor
- $f_R$  = rigidity factor
- $f_T$  = thermic factor
- $M$  = coefficient of material

| Coefficient of material (M) |           |
|-----------------------------|-----------|
| 0,25                        | aluminium |
| 0,35                        | steel     |

| Resonance factor (f <sub>r</sub> ) |                |
|------------------------------------|----------------|
| 1                                  | frequency < 10 |
| $\sqrt{\frac{f}{10}}$              | frequency > 10 |

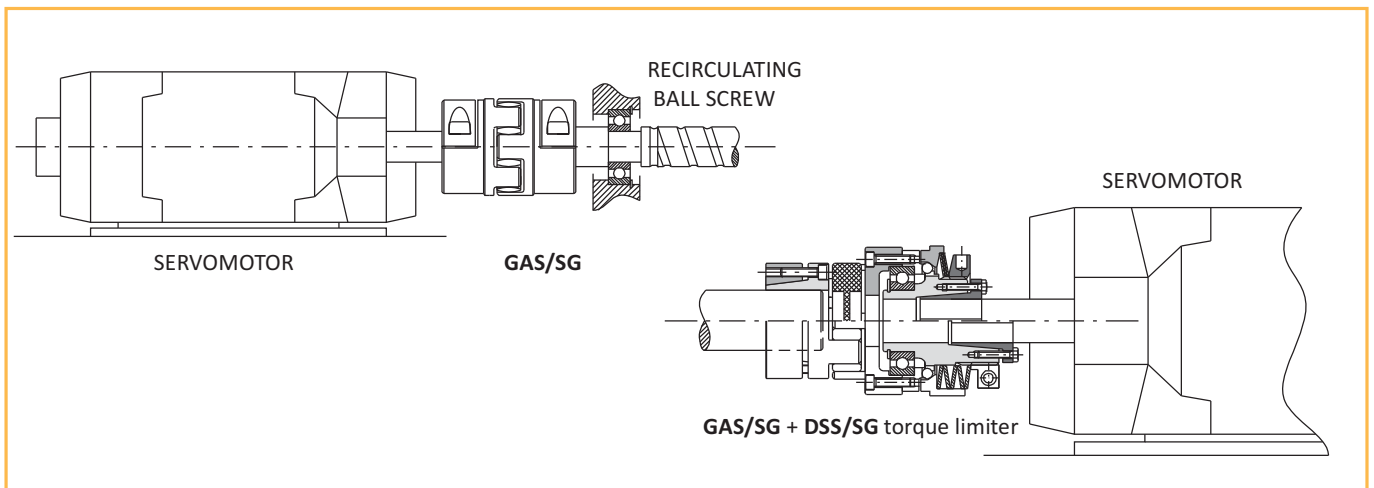
| Rigidity factor (f <sub>r</sub> ) |                    |
|-----------------------------------|--------------------|
| 2÷5                               | positioning system |
| 3÷8                               | tool machines      |
| >10                               | turn indicators    |

| Shock factor (K) |              |
|------------------|--------------|
| 1                | light shock  |
| 1,4              | medium shock |
| 1,8              | hard shock   |

| Thermic factor (f <sub>t</sub> ) |                |
|----------------------------------|----------------|
| 1                                | -30 ÷ +30 °C   |
| 1,2                              | > +30 ÷ +40 °C |
| 1,4                              | > +40 ÷ +60 °C |
| 1,8                              | > +60 ÷ +80 °C |

| Starting frequency factor (f <sub>s</sub> ) |                                 |
|---|---------------------------------|
| 1   | 0 ÷ 100 starting each hour      |
| 1,2   | > 100 ÷ 200 starting each hour  |
| 1,4   | > 200 ÷ 400 starting each hour  |
| 1,6   | > 400 ÷ 800 starting each hour  |
| 1,8   | > 800 ÷ 1600 starting each hour |

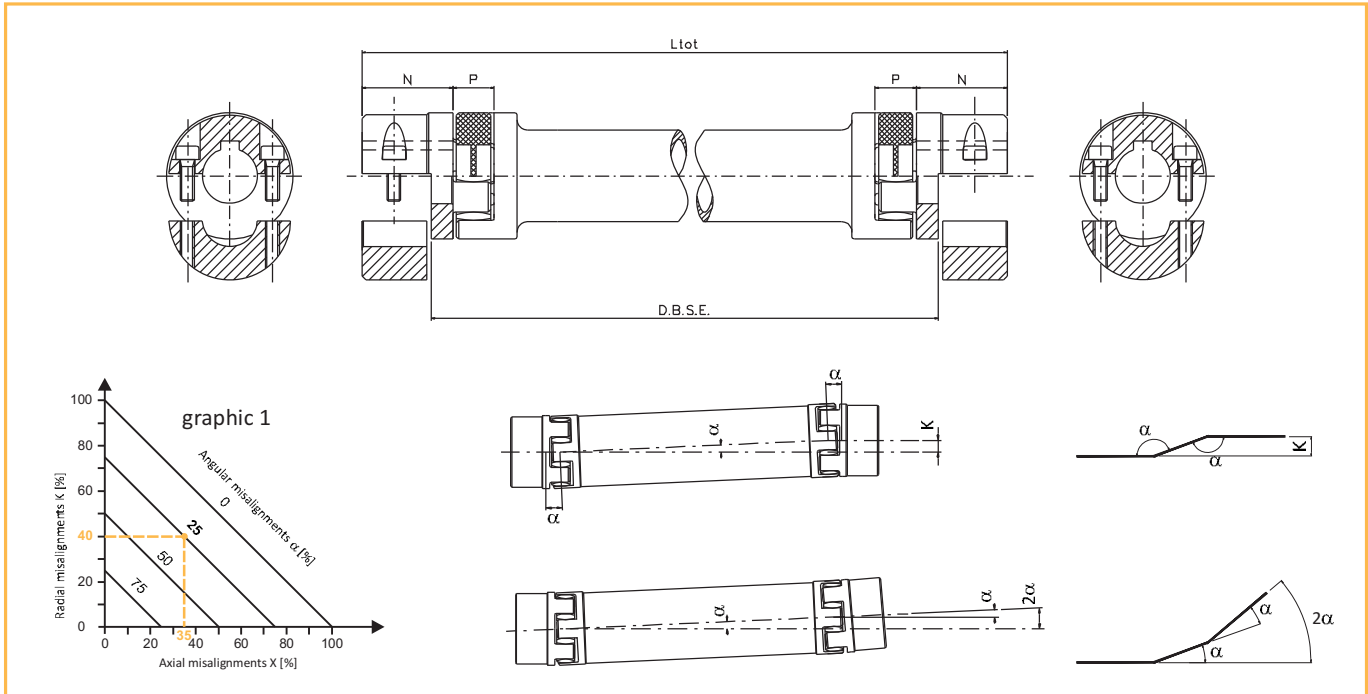
## APPLICATION EXAMPLE



## GAS & GAS/SG - jaw coupling: additional information

Having completed and checked the coupling choice, in accordance to the torque to be transmitted, it is necessary now to take into consideration the necessary flexibility comparing the misalignments allowed from the kind of coupling selected, with the real ones, seen by the shafts to be connected.

It is important to consider that misalignments, axial, angular and parallel, must be considered paired together, as inversely proportional (one reduces when the other increases). If all types of misalignments occur, it is necessary that the sum in percentage respect to the maximum value doesn't exceed 100%, according to "graphic 1".



$$K = [L_{tot} - (2 \cdot N) - P] \cdot \text{Tg } \alpha$$

- Where:
- $L_{tot}$  = total length [mm]
  - $K$  = radial misalignment [mm]
  - $N$  = useful length of an half-hub [mm]
  - $P$  = useful space of the elastomeric element [mm]
  - $\alpha$  = angular misalignment [°]

### FITTING

Particular procedures to assemble this coupling are not required. It can be assembled both vertically and horizontally.

- 1) Achieve radial and axial alignments as precisely as possible, to have maximum absorption of possible misalignments and life of the coupling.
- 2) Assemble the two half-hubs on the shafts. Check that the external parts of the two shafts do not exceed the relevant half-hub's surface (quote "N") and fix this one to the shaft with its relevant fixing system.
- 3) Assemble the elastomeric element on one half-hub and close the other inserting the relevant teeth into the elastomeric element, being careful to respect the distance of the two half-hubs indicated on the catalogue, quote "P".

In case of connection by clamp locking or locking assemblies, tighten the relevant screws progressively up to the tightening torque indicated in the catalogue, using a cross sequence.

