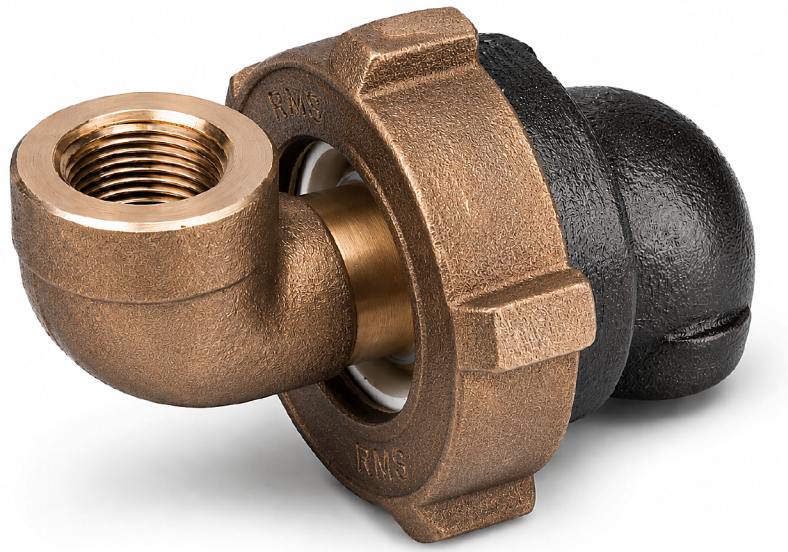
# SAS SERIES

## SELF-ALIGNING SWIVEL JOINTS



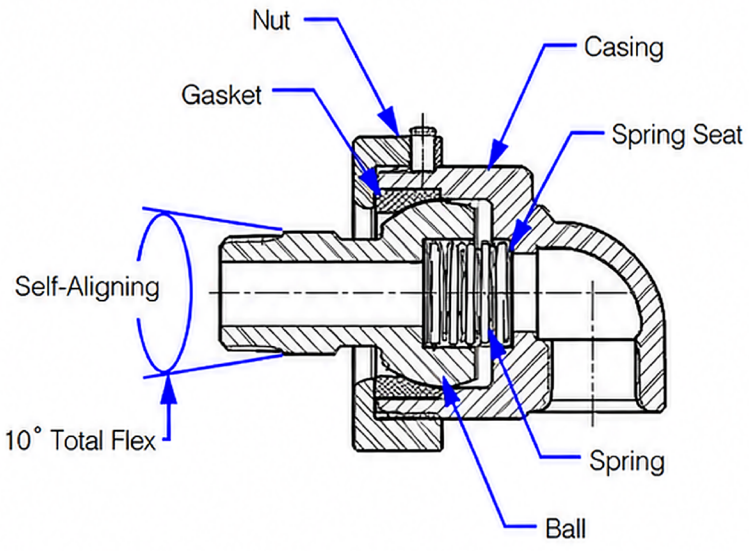

## RMS-SAS-T1, T2, T3 & T4

SPRING-LOADED, SINGLE-SEAT DESIGN

- 360° continuous rotary movement
- 10° total angular self-alignment
- Lower pressure drop than flexible hose
- Faster and easier piping installation
- Simplified fabrication and alignment
- Suitable for dog-leg press arrangements

## OPERATING PRINCIPLE

RMS self-aligning swivel joints combine rotary motion and angular correction in one compact spring-loaded assembly The single-seat construction maintains positive sealing wh the ball and spring system compensates for piping misalignment.




### TYPICAL MEDIA

Hot and cold water, alternating steam/water, hot oil and heat-transfer fluids.

### MAIN COMPONENTS

Nut - casing - ball - spring seat - spring - gasket/seal.

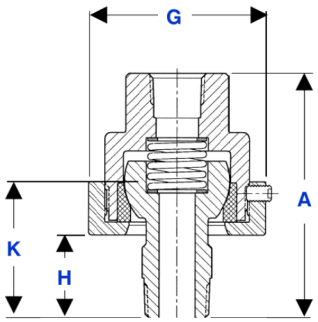
## OPERATING RANGE - SERIES DEPENDENT

| ROTATION | ANGULAR FLEX | MAX. PRESSURE | MAX. TEMPERATURE | MEDIA | MATERIALS |
|---|---|---|---|---|---|
| 360° | 10° total | 700 psig / 49 kg/cm² | 650°F / 343°C | Water, steam, hot oil | Bronze / iron / steel |

# TECHNICAL DRAWINGS & DIMENSIONS

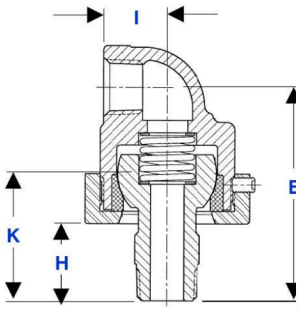
## SAS SERIES - T1, T2, T3 & T4 CONFIGURATIONS

Standard Series self-aligning swivel joints are designed for steam, hot oil, water and alternating steam/water service.



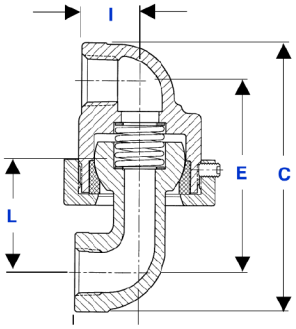

**STYLE T1**

RMS-SAS-T1



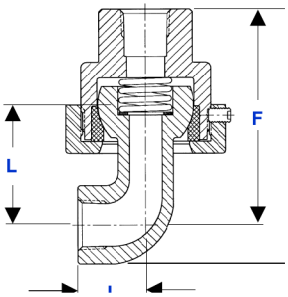

**STYLE T2**

RMS-SAS-T2




**STYLE T3**

RMS-SAS-T3




**STYLE T4**

RMS-SAS-T4

Series key: Orange = Standard Series, all bronze (1/2 in and 3/4 in). Nickel = Standard Series, malleable iron casing with bronze nut and ball (1/2 in to 1-1/2 in). Black = Series 600, all steel (1-1/4 in and 1-1/2 in).

## TABLE 1 - SAS SERIES DIMENSIONS

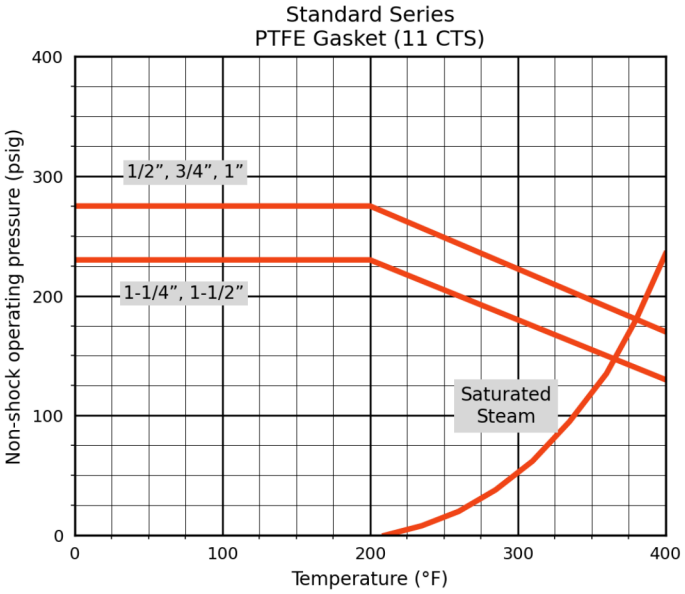
| JOINT SIZE | SIZE CODE | A | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2" 15 mm | 08 | 3.38" 86 | 3.38" 86 | 4.88" 124 | 3.66" 93 | 3.04" 77 | 3.04" 77 | 2.58" 66 | 1.32" 34 | .97" 25 | 1.19" 30 | 2.22" 56 | 1.88" 48 |
| 3/4" 20 mm | 12 | 3.80" 96 | 3.77" 96 | 5.26" 134 | 4.48" 114 | 3.64" 92 | 3.67" 93 | 3.21" 92 | 1.42" 36 | 1.19" 30 | 1.31" 33 | 2.50" 63 | 2.37" 60 |
| 1" 25 mm | 16 | 4.69" 119 | 4.16" 106 | 6.00" 152 | 5.11" 130 | 4.10" 104 | 4.63" 118 | 3.62" 92 | 1.63" 41 | 1.50" 38 | 1.50" 38 | 2.81" 71 | 2.75" 70 |
| 1-1/4" 32 mm | 20 | 4.89" 124 | 4.70" 119 | 7.34" 186 | 6.31" 160 | 5.06" 129 | 5.25" 133 | 3.87" 98 | 1.59" 40 | 1.69" 43 | 1.81" 46 | 2.80" 71 | 3.16" 80 |
| 1-1/2" 40 mm | 24 | 5.56" 141 | 5.44" 138 | 7.55" 192 | 6.36" 162 | 5.06" 129 | 5.18" 132 | 5.00" 127 | 2.15" 54 | 2.16" 55 | 2.31" 59 | 3.53" 90 | 3.15" 80 |

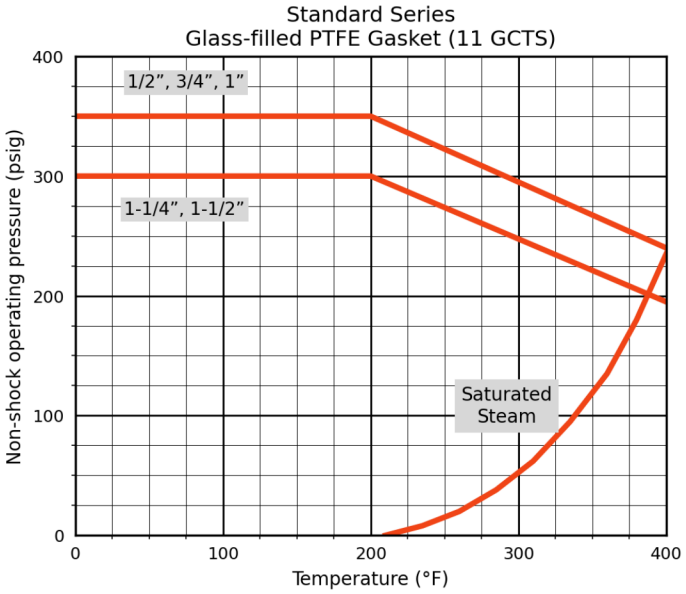
## TABLE 2 - SAS SERIES / ALL STEEL

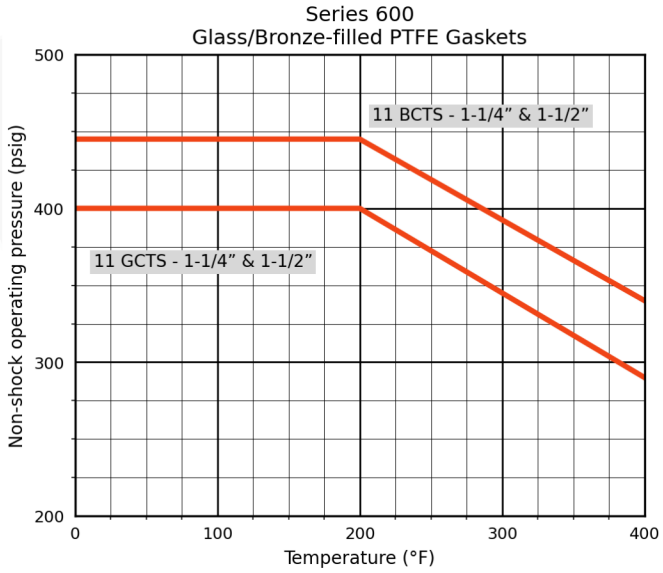
| JOINT SIZE | SIZE CODE | A | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-1/4" 32 mm | 20 | 5.38" 137 | 5.28" 134 | 7.53" 191 | 6.40" 163 | 5.28" 134 | 5.34" 136 | 4.49" 114 | 1.88" 48 | 2.03" 52 | 2.12" 54 | 3.19" 81 | 3.18" 81 |
| 1-1/2" 40 mm | 24 | 6.23" 158 | 6.19" 157 | 8.59" 218 | 7.23" 184 | 6.03" 153 | 6.04" 153 | 5.00" 127 | 2.25" 57 | 2.25" 57 | 2.62" 67 | 3.88" 99 | 3.69" 94 |

Dimensions are shown in inches with millimetres below. Socket-weld ends are available on request for Series 600.

# OPERATING DATA & SAS SERIES



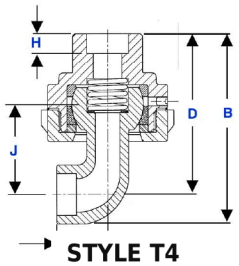




## SAS SERIES / ALL STEEL

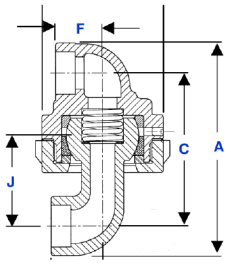
### INJECTED FLAKED GRAPHITE SEALANT

For hot-oil and high-pressure steam service. Socket-weld ends are standard; flanged ends are available as a special option.




**STYLE T4**

RMS-SAS-T4




**STYLE T3**

RMS-SAS-T3

F

### OPERATING DATA

Hot oil: 200 psig max. (14 kg/cm²) / 650°F max. (343°C)

Steam: 700 psig max. (49 kg/cm²) / 500°F max. (260°C)

## GRAPHITE-INJECTED SERIES DIMENSIONS

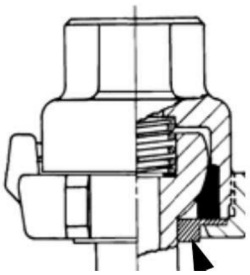
## SAS SERIES DIMENSIONS

| JOINT | SIZE | A | B | C | D | E | F | G | H | J |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 5.35"<br>136 | 5.00"<br>127 | 2.03"<br>52 | 2.12"<br>54 | .56"<br>14 | 3.19"<br>81 |
| 1-1/2"<br>40 mm | 24 | 8.67"<br>220 | 7.60"<br>193 | 6.12"<br>155 | 6.38"<br>162 | 5.00"<br>127 | 2.31"<br>59 | 2.69"<br>68 | .50"<br>13 | 3.81"<br>97 |

# NON-FLEX COLLAR & ORDERING SYSTEM

## NON-FLEX COLLAR

The non-flex version uses the same styles, sizes and materials as the standard joint, but adds a steel split collar between the nut and gasket. The ball neck is machined to form a bearing surface for the collar. This preserves 360° rotation while eliminating the 10° lateral flex.




**STYLE T4**

RMS-SAS-T4

Dog-leg assemblies: use the non-flex joint only at the upper anchor point. Use standard self-aligning joints at the other two positions to relieve binding and accommodate piping misalignment.

RMS-SW-43506-XX-XX

## RMS EASY ORDERING SYSTEM

### RMS-SAS-T1 / T2 / T3 / T4

BASIC ASSEMBLY  SIZE CODE  GASKET / SEAL CODE

| BASIC ASSEMBLY | |
|---|---|
| 32xxx | Standard Series |
| 325xx | Standard + non-flex collar |
| 33xxx | Series 600, all steel |
| 335xx | Series 600 + non-flex collar |
| 43xxx | Graphite-injected seal |
| 435xx | Graphite seal + non-flex collar |

| SIZE CODE | | |
|---|---|---|
| 08 | 1/2" | 12.7 mm |
| 12 | 3/4" | 19.1 mm |
| 16 | 1" | 25.4 mm |
| 20 | 1-1/4" | 31.8 mm |
| 24 | 1-1/2" | 38.1 mm |

| GASKET / SEAL CODE | |
|---|---|
| -23 | PTFE<br>**11 CTS** |
| -24 | Glass-filled PTFE<br>**11 GCTS** |
| -51 | Bronze-filled PTFE<br>**11 BCTS** |

### ORDERING NOTES

- State the complete RMS part number: basic assembly number, size code and gasket/seal code.
- Select the material series according to pressure, temperature, media and connection requirements.
- Non-flex collars are intended for controlled anchor positions where angular movement is not required.
- Specifications and dimensions may be revised without prior notice. Confirm the final drawing before ordering.