

# VNS-A4VG Flanged Swivel for Loading Arm

The VNS-A4 is a 100mm (4") straight single-plane cast aluminium swivel with 4" TTMA flanged ends.

The VNS swivels are often used on loading arms instead of the coupler spool to enable rotation of the API coupler

## Key Features

- Swivels allows for 360° rotation. It may be used on any application where another plane of rotation is required.
- Ball and needle rolling elements are incorporated into the design for optimum axial and radial load bearing with minimum friction.
- Liquip's grease relief system (grease nipple one side with relief valve mounted opposite for efficient removal of old grease and debris) extends the life of the swivel by ejecting old grease and wear particles.



## Dismantle

Remove retainer plug and rotate the swivel with the hole pointing downwards until all ball-bearings have dropped out. The male of the swivel can then be removed complete with the needle bearings and seals

## Adjustment

- None.
- Grease at three-monthly intervals with recommended grease.
- See Loading Arm Installation and Maintenance Manual for full details.

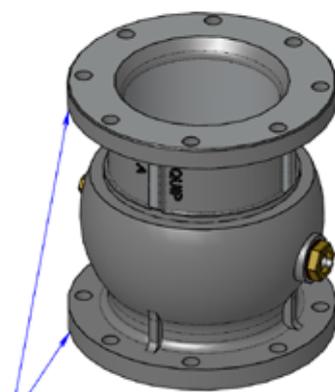
## Specifications

<b>Mounting</b>	Flanges are 100mm (4") TTMA pattern.
<b>Technical Data</b>	<ul style="list-style-type: none"> <li>• All aluminium construction (heat treated).</li> <li>• Ball and needle rolling elements for optimum axial and radial load bearing with minimum friction.</li> <li>• Grease nipple one side with relief valve mounted opposite for efficient removal of old grease and debris.</li> <li>• Dual o-rings for product seal and dust seal respectively.</li> <li>• Viton GFLT grade o-rings (* Teflon or other special seals available on request).</li> <li>• Brass ball retainer.</li> <li>• Handle can be ball-type or D-handle.</li> </ul>
<b>Working pressure</b>	1,000 kPa (145 PSI)
<b>Test pressure</b>	1,500 kPa (218 PSI).
<b>Weight</b>	6.0 kg (13lb)
<b>Operating temperature</b>	-20° to +80°C (-4° to +176°F) for EPDM & Viton B70 grade -40° to +60°C (-40° to +140°F) for Viton GFLT grade
<b>Associated Equipment</b>	<ul style="list-style-type: none"> <li>• Straight spool piece 200mm (8") long VSS-4.</li> <li>• 15° angled spool piece 200mm (8") long VSA-4.</li> <li>• LBV450(L) Butterfly Valve to suit 4" TTMA flange</li> <li>• API bottom loading coupler API800 series</li> </ul>

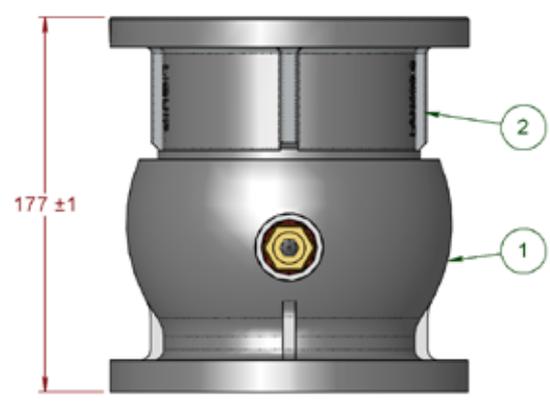
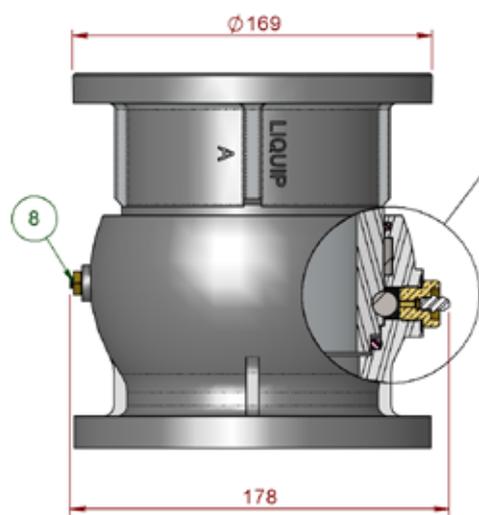
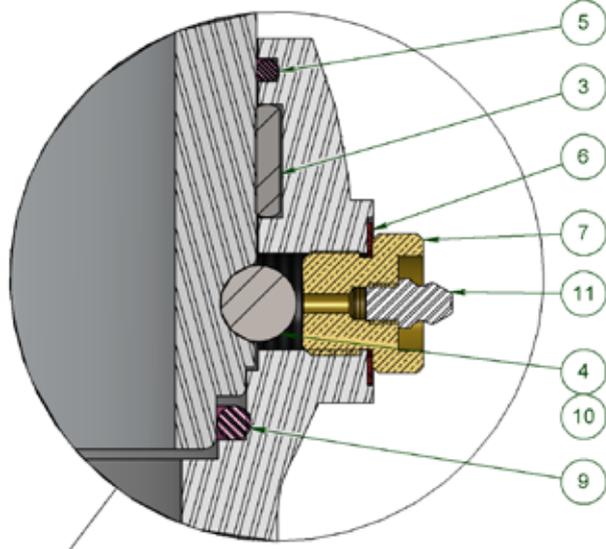
**\* Note:**

The nature of Teflon is that it is unyielding but easily scratched; therefore the slightest damage can lead to weeps particularly where clamping force is provided by a spring which is necessarily limited in force. However the use of Teflon cannot be avoided because of its outstanding chemical resistance. Liquip guarantee the sealing of all new products and test all production prior to dispatch. Following installation of the equipment by the Purchaser it is essential that the valve be kept perfectly clean, any test liquids be perfectly clean and no tools be allowed to touch the Teflon seals. It is not uncommon for valves to exhibit small weeps once in service with commercial-quality liquids.

# VNS-A4x STRAIGHT SWIVEL 4" TTMA



4" TTMA FLANGE ENDS  
8 x Ø11 HOLES  
ON A 149 PCD



ITEM	PART No.	DESCRIPTION	VNS-A4VG	VNS-A4AVI	VNS-A4C	MATERIAL
1	LAN400-4	SWIVEL STRAIGHT FEMALE	1	1	1	ALUMINIUM
2	LAN400-8	STRAIGHT MALE SWIVEL 100NB	1	1	1	ALUMINIUM
3	4531	NEEDLE ROLLER	100	100	100	STEEL
4	2334	BALL BEARING	32	32	32	STEEL
5	6080	O-RING	1	1	1	VITON B70
6	0885	WASHER FIBRE	1	1	1	FIBRE
7	LAN400-9	PLUG	1	1	1	BRASS
8	1525	GREASE RELIEF NIPPLE	1	1	1	BRASS
9	0126VG	O-RING	1	-	-	VITON GFLT
	0126	O-RING	-	1	-	VITON B70
	0126K	O-RING	-	-	1	FFKM
10	7172	GREASE MOLYKOTE	1	-	-	GREASE
	7815	GREASE MOLYKOTE (AVIATION)	-	1	-	GREASE
	7128	GREASE ROCOL (SILICONE)	-	-	1	GREASE
11	0481	NIPPLE GREASE STRAIGHT	1	-	1	Z/P STEEL
12	6696	GRUBSCREW CUP POINT	-	1	-	ST STEEL