

**"THE HOUSE OF SWIVEL JOINTS  
# ONE STOP SOLUTION OF SWIVEL JOINTS & SLIP RINGS"**



Rotary Joints  
Rotary Unions  
Hybrid Rotary Joints  
Multi Port Rotary Union  
Swivel Joints  
Sliprings

## 6000 Series

'CARBON' BRAND SWIVEL JOINT FOR  
CONTINUOUS CASTING MACHINE IN STEEL INDUSTRIES.

*Trouble Free  
Performance.  
with Highest Quality*



**APPLICATION :** FOR HYDRAULIC OIL, WATER & AIR

**SIZE :** 1" TO 21" OR CUSTOMISED SINGLE &  
DOUBLE BALL RACE. STYLE 1 TO 9

**THREDS AVAILABLE :** BSP STD. OPTIONAL : NPT, JIS, BSPT ETC.

**TEMPERATURE (Max) :** 90 deg. c.

**PRESSURE (Max) :** 6000 PSI Max.

WELDED END CONNECTION, THREADED END FLANGED END

**TYPE OF CONNECTIONS :** NIPPLE, BUSHING, FLANGE & WELDING

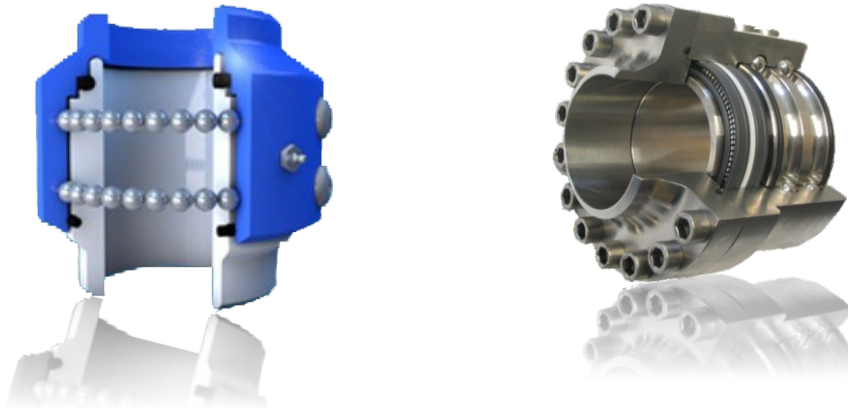
**SPEED (Max) :**

**CARBON**® Brand '6000' Series special purpose custom made swivel joint have been the industry standard since their introduction in 1993. The single / double step swivel joint easily handles today's severe fracturing, radial temperature extreme and high flow rates. The single / double swivel joint is the ideal choice for your most demanding applications.

**CARBON**® Brand '6000' Series Swivel Joints can be used anywhere to transmit fluid media between two relatively movable points. Its 360 degrees turning capacity in all levels, easily handling, absolute operational reliability and very long service life enable its use in places where tubes do not comply with operational requirements



## Here's What Makes This Joints So Special.



## CARBON STEPPED BALL RACE DESIGN

The step swivel joint features an exclusive "stepped" ball race arrangement. As shown in the illustration above, this design adds considerable wall thickness under the male ball races to dramatically increase erosion allowance in this critical area without increasing swivel joint size or weight. Additionally the step design provides significantly higher bending and axial load capacities for improved strength and safety.

[www.thecarbon.co.in](http://www.thecarbon.co.in)

[www.swiveljoint.co.in](http://www.swiveljoint.co.in)

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**Elastomers seal design:**

The standard single/ double step swivel joint world proven in stream packing technology for applications where elastomer seals and packing have performed acceptably. The packing is identical to the packing has been proven in a range of applications on a global basis.

Available packing materials include Viton, low temperature nitrile and others elastomer compounds. We are also use ptfefl seals as a elastomer.

We are using 100% virgin ptfefl impregnated gland packing as a standard.

Step swivel joints are defined with one /two machined grooves on the outside of female ball race.

## CARBON BRAND 6000 SERIES SPLIT FLANGE DESIGN SWIVEL JOINTS



Represents the best in swivel technology. This design specially for the transfer of hazardous materials such as acids, solvents, petrochemicals and other toxic fluids.

**This split flange design swivel joints are standard in Loading Arm swivel performance.**

#Standard sizes: 2" to 12"

#Standard materials: Carbon steel, Stainless steel

#Standard seals: PTFE, VITON, EPDM, NEOPRENE

#Standard End connections: Flanges as Per 150/300/600 class ANSI / ASA, Butt welded.



## ADVANTAGES

Heavy duty construction made from forgings and solid bars and unique design features result in long life, hassle free operation.

Improves uptime performance; **CARBON** split egnafiswivel joint design, combined with the most user friendly counterbalance solutions, results in LESS DOWN TIME- LESS LABOUR- LESS COST = INCREASE PRODUCTION.

Lowest cost of Ownership-Optimized performance, downtime prevention and reduces maintenance time and costs make this the best overall loading arm solution currently available.

Mfg. by : **CARBON ROTATING SYSTEMS PVT LTD** AHMEDABAD-382415, INDIA

## CARBON BRAND 6000 SERIES SPLIT FLANGE DESIGN SWIVEL JOINTS



### Redundant sealing for safety:

- Incorporates main seal, back up seal and internal seals.
- If main seal ever leaks due to normal wear, the back up seal contains the fluid;
- in that case internal seal provide a layer of protection.

### Ball race design for easy maintenance:

- Deep groove replaceable dual and single race ball bearing design.
- Easy replacement or retrofit options.
- Ball removal not required to access main seals.

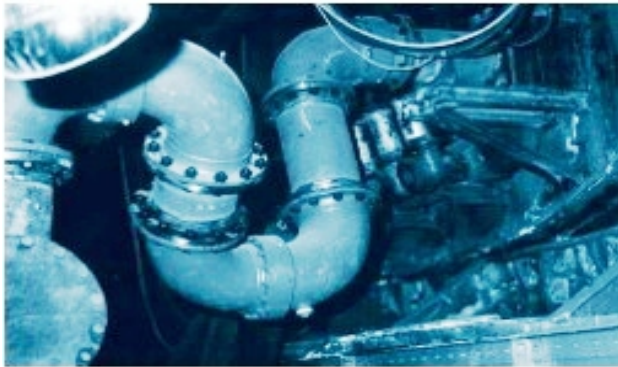
### Easy Maintenance:

- Simply unbolt sealing flange to access seals.
- No ball bearings to remove
- No need to disassemble the swivel joint from loading arm / piping.

### Purge port: [optional & recommended for your extreme applications.]

- For critical applications, an inert gas can be injected at purge port Inert gas pressure higher than product pressure to virtually eliminate risk of fugitive emission.

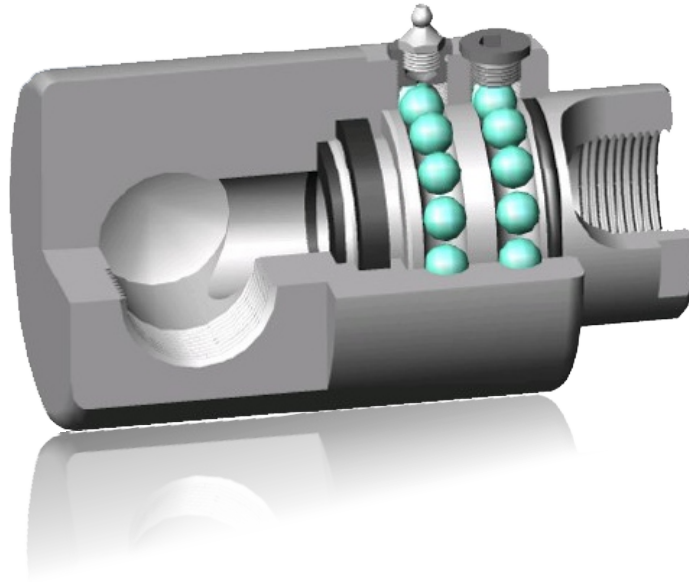
# CARBON 6000 SERIES SWIVEL JOINTS APPLICATIONS



## APPLICATION INDUSTRIES:

- PETROCHEMICAL
- REFINERIES OFFSHORE
- MINING INDUSTRIES WATER TREATMENT PLANT CHEMICAL
- PHARMACEUTICAL PROCESS
- PIPING SYSTEMS
- LOADING ARMS
- HOSE REELS
- DREDGING INDUSTRIES
- FLOATING ROOF TANK
- STEEL AND IRON INDUSTRIES
- FERTILIZERS INDUSTRIES
- GAS / LPG TRANSFER PLANT
- SUBMERGED SERVICE.

**CARBON BRAND 6000 - F SERIES**  
**SWIVEL JOINTS for Flexible Hose connection.**



**CARBON Brand 6000 - F series Swivel joints are used in following cases.** Movable piping systems are needed for the transport of Liquid and gaseous medias. Liquid and gaseous medias must be induced from Fixed line into rotating line components. Hose systems must be exculpated from high bending and torsion stress.

Size : 1" to 4" with male / female thread.

Material : 42 Cr Mo4, 1.4571

Pressure : carbon steel up to max. 350 bar  
              : Stainless steel up to max.100 bar.

Temp.      : 90 deg. c.

Thread     : BSP STD. OPTIONAL : NPT, JIS, BSPT ETC.

## CARBON 6000 SERIES SWIVEL JOINTS.



### Rotational Test:

20,000 Cycles of rotation at 360 ° with Air pressure at 7 kg/ cm<sup>2</sup>. The speed will be 20 RPM. After testing, ball races and seals are checked for any damage or marks .

### Air Test:

Air test at 1.0 bar for 100% swivel joints up to 15/20 minutes. This test is better with low pressure for detection of failure in the seal.

### Hydraulic Test:

All **CARBON** Brand '6000' Series Swivel joints are internally hydraulic tested at our workshop before the dispatch. The Vacuum test, Bending moment / Radial load test , External pressure test also done Subject to requirements.

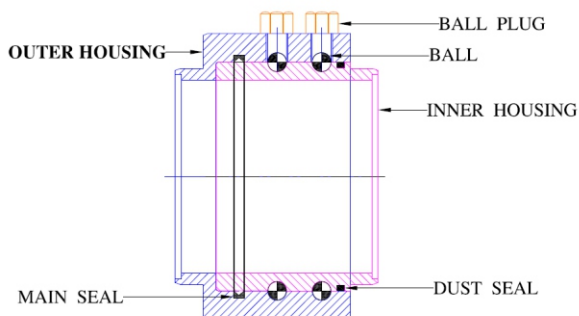
Hydraulic test of each and every swivel joints at 1.5 times higher then working pressure at ambient temp. and holding up to 30 minutes.

### Lubrication:

The swivel joints lubricated in the plant after complete assembling and testing. Lubrication will be done after use of at least of one month by opening the ball retainer plug and inspection grease.

At the time of inspection suppose the existing color of grease changes, or become a dirty always change the grease after remove soiled / old grease immediately.

Always use recommended grease only.



### MOC OF SWIVEL JOINTS:

Outer Housing : CARBON STEEL 20Mn Cr5 / STAINLESS STEEL

Inner Housing : CARBON STEEL 20Mn Cr5 / STAINLESS STEEL

Ball : Chrome Steel @ 60 HRC. / Stainless steel

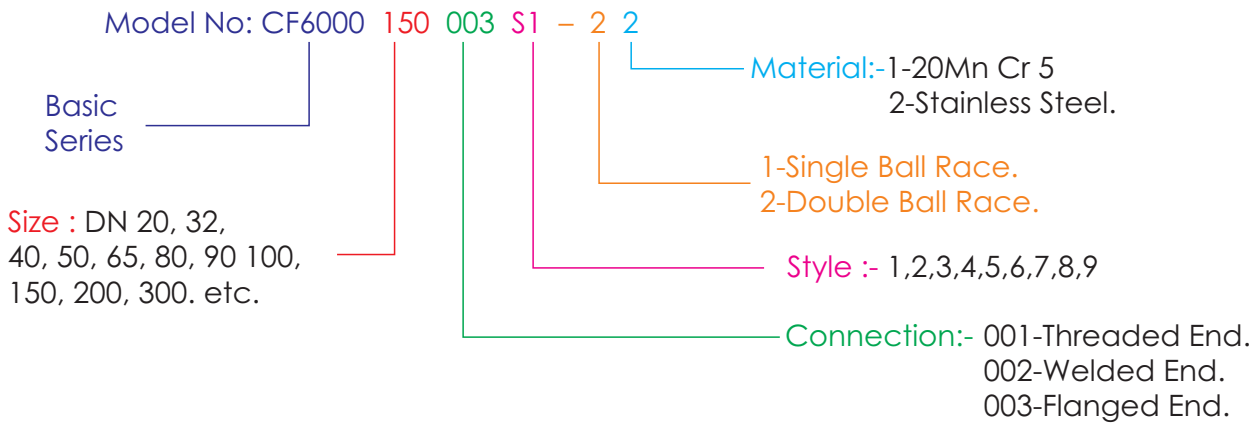
Main Seals : VITON, PTFE; HYPALON.

Dust seal : VITON, PTFE.

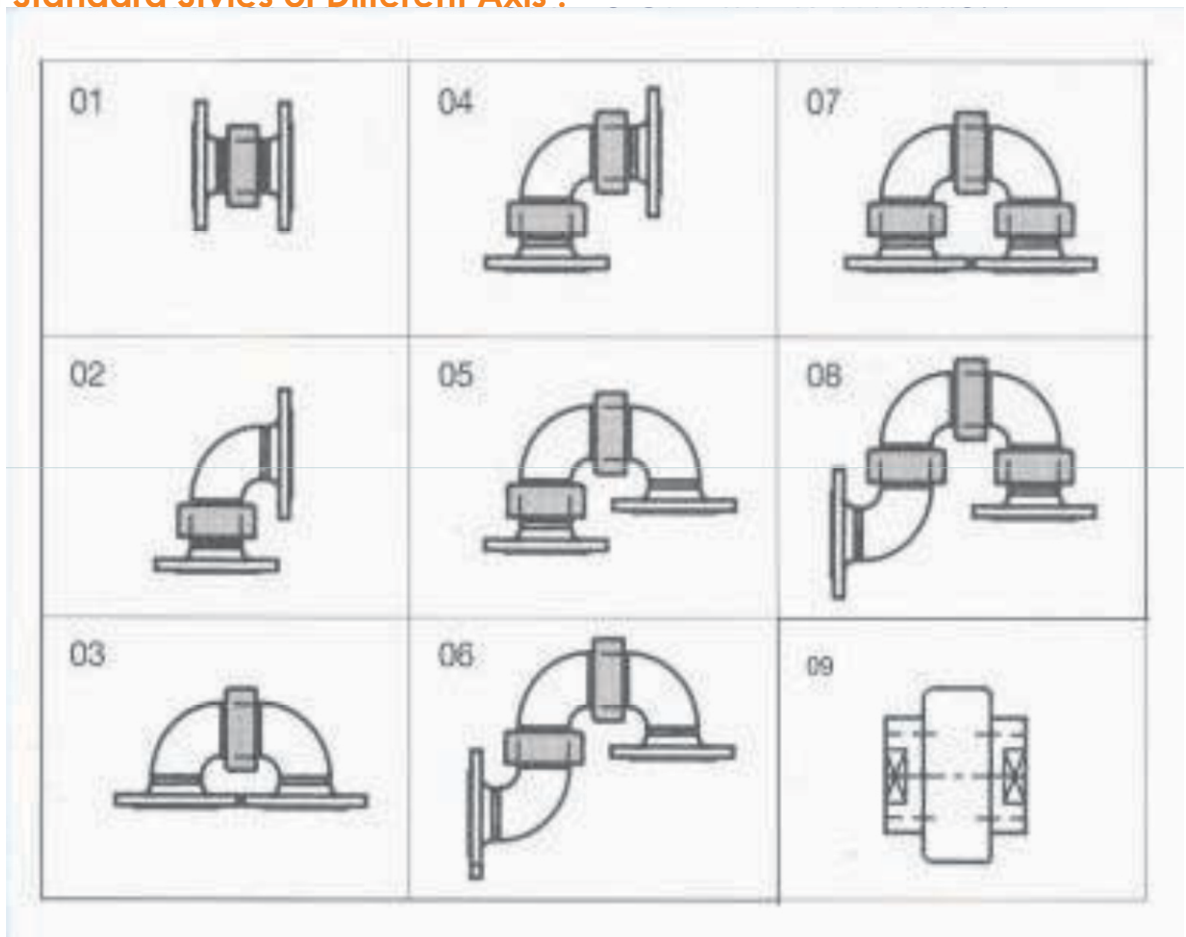


# CARBON 6000 SERIES SWIVEL JOINT STANDARD EXECUTION

## Ordering Example :-



## Details of Standard Styles of Different Axis :-



## Data Sheet of 20 Mn Cr 5

<b>Grade</b>	<b>20 Mn Cr 5</b>
<b>Number</b>	1.7147
<b>Standard</b>	EN 10084:2008 Case hardening steels.
<b>Classification</b>	Alloy special steel.

### Chemical composition % of grade 20 Mn Cr 5 (1.71470)

<b>C</b>	<b>Si</b>	<b>Mn</b>	<b>P</b>	<b>S</b>	<b>Cr</b>
0.17-0.22	Max. 0.4	1.1-1.4	Max. 0.025	Max. 0.035	1-1.3

### Equivalent grades of grade 20 Mn Cr 5 ( 1.71470)

<b>USA</b>	<b>GERMANY</b>	<b>Japan JIS</b>	<b>InterISO</b>	<b>Russia SFS</b>
SAE 5120	20MnCr 5	SMnC420H	20 Mn Cr 5	510

## Some Pictures Of Swivel Joints



# MAINTENANCE MANUAL

## Identification:

**CARBON** double ball race Swivel assemblies are different from other Swivel Joint Models by the presence of dynamic seals inside the outer housing.

## Preventive Maintenance:

- The double ball race swivel joint is constructed with superior sealing & corrosion protections. Little preventive maintenance is therefore required but should include the following:
- Work fluids especially acids, should be thoroughly flushed out from the swivel after each / every use to avoid pitting corrosion and exposure to personnel.
- Leakage must be repaired immediately.

**Warning: If any leakage is detected from double Swivel joint remove it from service immediately to prevent potential personnel injury and / or damage.**

- The sealed bearing construction does not normally require periodic greasing. A grease port is provided for extreme service conditions where periodic greasing shall be desirable.

## Periodic Inspection:

- Periodic inspection shall be undertaken to verify the conditions of Swivel joint assembly. The frequency of inspection should be matched to the frequency of use and severity of the application. The periodic inspection should have included:
  - Visual inspection of end connections:- Looking for general erosion, end connection thread wear and / or corrosion and any damage or deformations.
  - Wall thickness should be verified and compared to acceptable minimums.
  - Determine if any leakage has occurred, if so, to be repaired.
  - Inspect free rotation of the swivel and there are no / nil missing parts.

## Disassembly :

Tools Required: Awl or similar pointed tool, vise, large screw driver, rubber sheet & Container.

1. Locate the double step swivel joint in an appropriate position so that, the female portion of the joint is secured and the male portion is free to rotate. An appropriately sized bench vice works well for this.
2. Remove the ball plug using spanner / screw driver.
3. Secure female component in vise with ball plug holes positioned downward over a suitable container.
4. Rotate the male components, ball bearings should be dropped out.  
**Note: It may be necessary to thin hardened lubricant with petroleum solvent in order to remove balls.**
5. Separate male and female components after ball bearings have been removed.  
**Note: Don't damage machined surfaces when separating components. Protect sealing surfaces at all times.**
6. Carefully remove old dynamic seals from housing using a screw driver.  
**Caution: Use extreme care in removing old seals to prevent damage to sealing surfaces of swivel joints components.**
7. Remove secondary seal 'o' ring from the component.
8. All components should be cleaned with solvent and inspected for wear and /or corrosion

## Repair :

A. Inspect parts for excessive wear, corrosion or other damage.

1. Inspect ball race for dents or grooves.
2. Check male and female components for excessive erosion or corrosion.
3. Carefully inspect the inside surfaces of elbows and male ball race for evidence of erosion or corrosion [Replace all parts that show evidence of damage in the ball races, sealing surfaces or other areas]

B. Sealing surfaces must be completely smooth. Remove minor scratches or pitting with a fine abrasive or wire brush.

C. Re clean all parts after polishing to remove metal particles and foreign matter. Apply a thin coat of lubricant to ball races, sealing surfaces and new seals.

D. Install new secondary o ring on male components.

E. Lightly coat the new packing with lubricant & install in the housing.

F. Secure female component in vise with ball plug holes on top.

G. Carefully insert the male component into the female component. Avoid damaging the seals. Hold the male piece in place and insert one ball into each ball plug hole. While pushing and rotating the male piece. Pry one ball into each race with a large screwdriver.

H. Drop balls into races. Rotate male component and add balls until all two ball races are filled with the correct number of balls.

I. Insert ball plug for both races.

**Lubricant bearing as follows.:-**

- Remove the grease nipple
- Using a small hand-held grease gun with grease fitting adaptor to force small amount of lubricant through the grease nipple.
- Rotate male component at 90 degree [ quarter turn] and add more grease.
- Repeat above point two more times.
- Check smoothness of rotation.
- Install the grease nipple.

**After assembly the swivel joint should be hydraulically tested at required pressure.  
And install the swivel joints in your line.**

# Model 6000

# STYLE : 01



## CF6000 25 A S1-2-S

Basic Series :- **CF6000**

SIZE 1" :- **25**

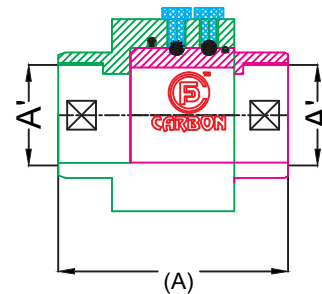
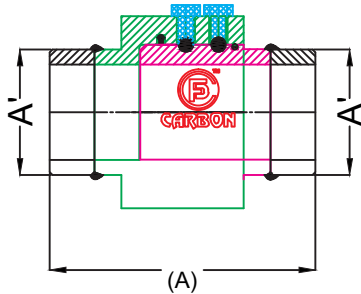
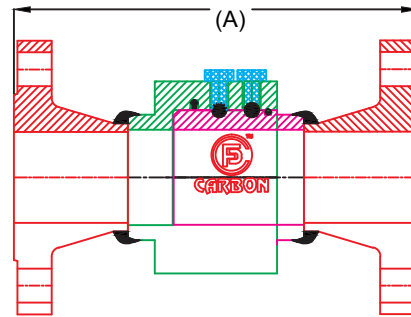
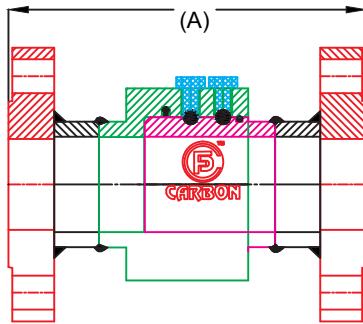
STYLE  
**S1 TO S8**

S.S :- **A**  
42CRMO4 :- **B**

SORF FLANGE :- **S\***  
WNRF FLANGE :- **W\***  
SOCKET WELD :- **SO\***  
THREAD END :- **TH\***

DOUBLE BALL RACE :- **2**  
SINGLE BALL RACE :- **1**

**NOTE :-** \* Please Specify STD (ANSI B16.5 AND CLASS #150,300/ DIN /PN)

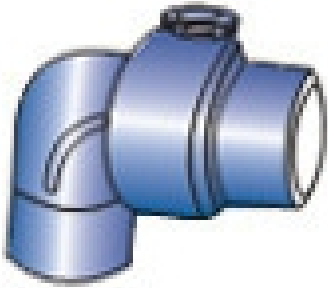


### STYLE - 01

SIZE	MODEL NO.	SORF (ANSI16.5 CLASS #150 FLANGE)	MODEL NO.	WNRF (ANSI16.5 CLASS #150 FLANGE)	SOCKET		SOCKET	
		(A)		(A)	(A)	(A')	(A)	(A')
DN25	CF600025AS1-2-S	176	CF600025AS1-2-W	193	147	34	117	1" B.S.P.
DN32	CF600032AS1-2-S	183	CF600032AS1-2-W	197	148	43	118	1 1/4" B.S.P.
DN40	CF600040AS1-2-S	184	CF600040AS1-2-W	209	151	49	121	1 1/2" B.S.P.
DN50	CF600050AS1-2-S	199	CF600050AS1-2-W	215	158	61	128	2" B.S.P.
DN65	CF600065AS1-2-S	213	CF600065AS1-2-W	235	165	76	155	2 1/2" B.S.P.
DN80	CF600080AS1-2-S	218	CF600080AS1-2-W	238	168	89	158	3" B.S.P.
DN100	CF6000100AS1-2-S	228	CF6000100AS1-2-W	253	171	115	161	4" B.S.P.
DN125	CF6000125AS1-2-S	288	CF6000125AS1-2-W	292	225	140		
DN150	CF6000150AS1-2-S	304	CF6000150AS1-2-W	303	235	169		
DN200	CF6000200AS1-2-S	305	CF6000200AS1-2-W	325	237	219		
DN250	CF6000250AS1-2-S	318	CF6000250AS1-2-W	324	237	273		
DN300	CF6000300AS1-2-S	335	CF6000300AS1-2-W	352	240	324		

# Model 6000

# STYLE : 02



**CF6000 25 A S1-2-S**

Basic Series :- **CF6000**

SIZE 1" :- **25**

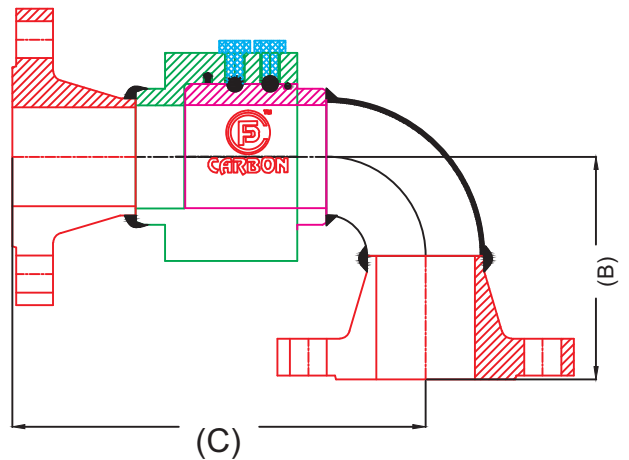
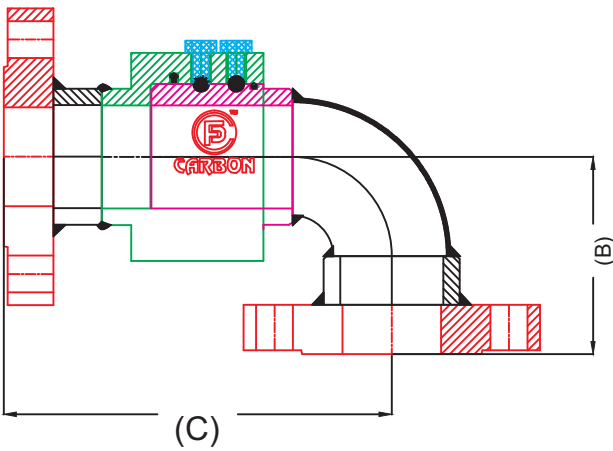
STYLE  
**S1 TO S8**

SORF FLANGE :- **S\***  
WNRF FLANGE :- **W\***

S.S :- **A**  
42CRMO4 :- **B**

DOUBLE BALL RACE :- **2**  
SINGLE BALL RACE :- **1**

**NOTE :- \* Please Specify STD (ANSI B16.5 AND CLASS #150,300/ DIN /PN)**



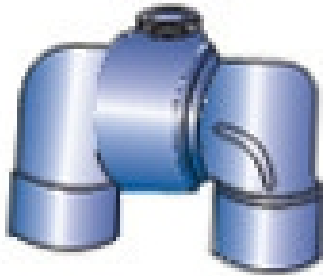
STYLE - 02		SORF (ANSI16.5 CLASS#150 FLANGE)			
SIZE	MODEL NO.	SORT RADIUS ELBOW		LONG RADIUS ELBOW	
		(B)	(C)	(B)	(C)
DN25	CF600025AS2-2-S	-	-	83	171
DN32	CF600032AS2-2-S	-	-	96	184
DN40	CF600040AS2-2-S	-	-	104	195
DN50	CF600050AS2-2-S	102	200	127	225
DN65	CF600065AS2-2-S	118	223	149	254
DN80	CF600080AS2-2-S	131	239	169	277
DN100	CF6000100AS2-2-S	161	271	211	321
DN125	CF6000125AS2-2-S	209	333	271	396
DN150	CF6000150AS2-2-S	237	371	313	448
DN200	CF6000200AS2-2-S	287	425	389	527
DN250	CF6000250AS2-2-S	345	481	472	608
DN300	CF6000300AS2-2-S	403	543	555	694

STYLE - 02		WNRF (ANSI16.5 CLASS#150 FLANGE)			
SIZE	MODEL NO.	SORT RADIUS ELBOW		LONG RADIUS ELBOW	
		(B)	(C)	(B)	(C)
DN25	CF600025AS2-2-W	-	-	94	178
DN32	CF600032AS2-2-W	-	-	105	191
DN40	CF600040AS2-2-W	-	-	119	207
DN50	CF600050AS2-2-W	115	208	140	233
DN65	CF600065AS2-2-W	134	235	165	265
DN80	CF600080AS2-2-W	146	249	184	287
DN100	CF6000100AS2-2-W	178	284	228	334
DN125	CF6000125AS2-2-W	216	336	279	399
DN150	CF6000150AS2-2-W	241	371	318	448
DN200	CF6000200AS2-2-W	305	435	407	537
DN250	CF6000250AS2-2-W	356	484	483	611
DN300	CF6000300AS2-2-W	403	543	555	694



# Model 6000

# STYLE : 03



**CF6000 25 A S1-2-S**

Basic Series :- **CF6000**

SIZE 1" :- **25**

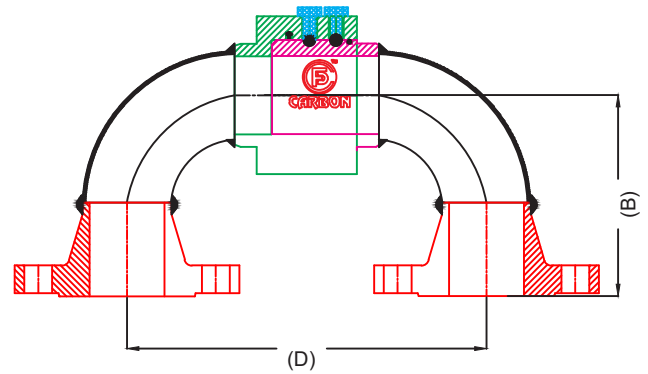
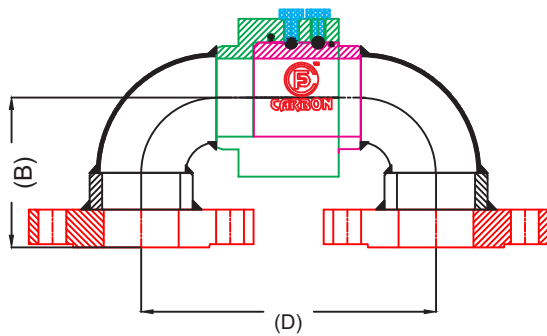
STYLE  
**S1 TO S8**

SORF FLANGE :- **S\***  
WNRF FLANGE :- **W\***

S.S :- **A**  
42CRMO4 :- **B**

DOUBLE BALL RACE :- **2**  
SINGLE BALL RACE :- **1**

**NOTE :-** \* Please Specify STD (ANSI B16.5 AND CLASS #150,300/ DIN /PN)



STYLE - 03					
SIZE	MODEL NO.	SORF( ANSI16.5 CLASS#150 FLANGE)			
		SORT RADIUS ELBOW		LONG RADIUS ELBOW	
		(B)	(D)	(B)	(D)
DN25	CF600025AS3-2-S	-	-	83	163
DN32	CF600032AS3-2-S	-	-	96	185
DN40	CF600040AS3-2-S	-	-	104	205
DN50	CF600050AS3-2-S	102	200	127	250
DN65	CF600065AS3-2-S	118	233	149	295
DN80	CF600080AS3-2-S	131	239	169	277
DN100	CF6000100AS3-2-S	161	315	211	415
DN125	CF6000125AS3-2-S	209	379	271	504
DN150	CF6000150AS3-2-S	237	439	313	593
DN200	CF6000200AS3-2-S	287	544	389	747
DN250	CF6000250AS3-2-S	345	643	356	644
DN300	CF6000300AS3-2-S	403	750	555	1054

STYLE - 03					
SIZE	MODEL NO.	WNRF( ANSI16.5 CLASS#150 FLANGE)			
		SORT RADIUS ELBOW		LONG RADIUS ELBOW	
		(B)	(D)	(B)	(D)
DN25	CF600025AS3-2-W	-	-	94	163
DN32	CF600032AS3-2-W	-	-	105	185
DN40	CF600040AS3-2-W	-	-	119	205
DN50	CF600050AS3-2-W	115	200	140	250
DN65	CF600065AS3-2-W	134	233	165	295
DN80	CF600080AS3-2-W	146	260	184	336
DN100	CF6000100AS3-2-W	178	315	228	415
DN125	CF6000125AS3-2-W	216	379	279	504
DN150	CF6000150AS3-2-W	241	439	318	593
DN200	CF6000200AS3-2-W	305	544	407	751
DN250	CF6000250AS3-2-W	356	644	483	898
DN300	CF6000300AS3-2-W	419	750	571	1054

# Model 6000

# STYLE : 04



**CF6000 25 A S1-2-S**

Basic Series :- **CF6000**

SIZE 1" :- **25**

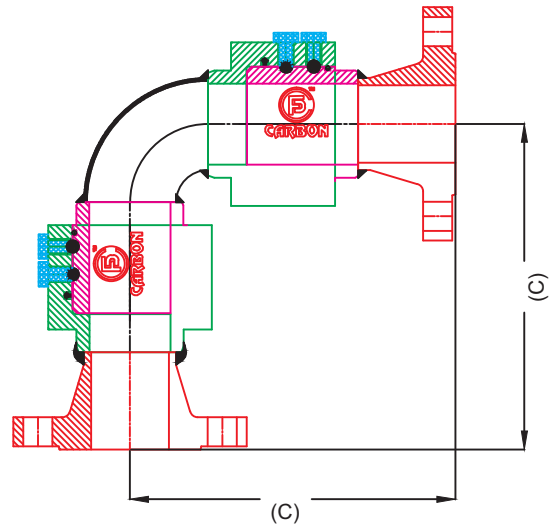
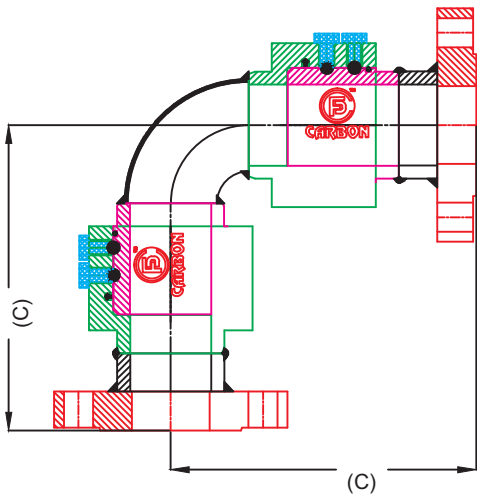
STYLE **S1 TO S8**

SORF FLANGE :- **S\***  
WNRF FLANGE :- **W\***

S.S :- **A**  
42CRMO4 :- **B**

DOUBLE BALL RACE :- **2**  
SINGLE BALL RACE :- **1**

**NOTE :-** \* Please Specify STD (ANSI B16.5 AND CLASS #150,300/ DIN /PN)

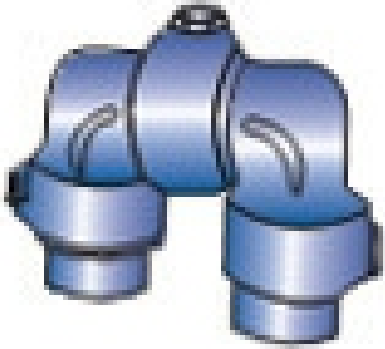


STYLE - 04			
SIZE	MODEL NO.	SORF (ANSI16.5 CLASS#150 FLANGE)	
		SORT RADIUS ELBOW (C)	LONG RADIUS ELBOW (C)
DN25	CF600025AS4-2-S	-	171
DN32	CF600032AS4-2-S	-	184
DN40	CF600040AS4-2-S	-	195
DN50	CF600050AS4-2-S	200	225
DN65	CF600065AS4-2-S	223	254
DN80	CF600080AS4-2-S	239	277
DN100	CF6000100AS4-2-S	271	321
DN125	CF6000125AS4-2-S	333	396
DN150	CF6000150AS4-2-S	371	448
DN200	CF6000200AS4-2-S	425	537
DN250	CF6000250AS4-2-S	481	608
DN300	CF6000300AS4-2-S	543	694

STYLE - 04			
SIZE	MODEL NO.	WNRF (ANSI16.5 CLASS#150 FLANGE)	
		SORT RADIUS ELBOW (C)	LONG RADIUS ELBOW (C)
DN25	CF600025AS4-2-W	-	178
DN32	CF600032AS4-2-W	-	191
DN40	CF600040AS4-2-W	-	207
DN50	CF600050AS4-2-W	208	233
DN65	CF600065AS4-2-W	235	265
DN80	CF600080AS4-2-W	249	287
DN100	CF6000100AS4-2-W	284	334
DN125	CF6000125AS4-2-W	336	399
DN150	CF6000150AS4-2-W	371	448
DN200	CF6000200AS4-2-W	435	537
DN250	CF6000250AS4-2-W	484	611
DN300	CF6000300AS4-2-W	551	703

# Model 6000

# STYLE : 05



**CF6000 25 A S1-2-S**

Basic Series :- **CF6000**

SIZE 1" :- **25**

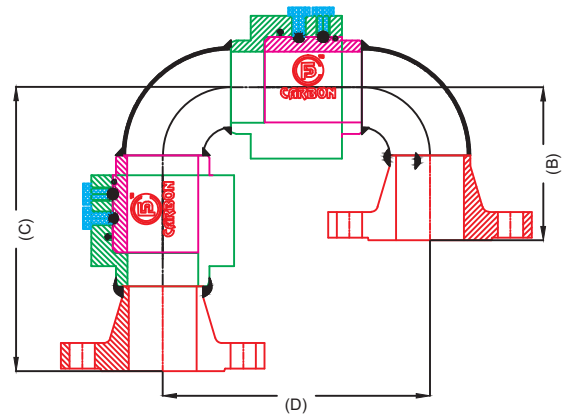
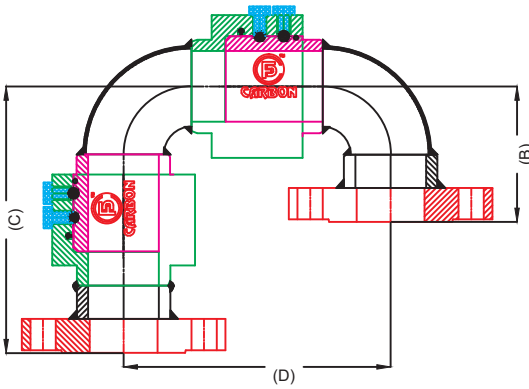
STYLE  
**S1 TO S8**

SORF FLANGE :- **S\***  
WNRF FLANGE :- **W\***

S.S :- **A**  
42CRMO4 :- **B**

DOUBLE BALL RACE :- **2**  
SINGLE BALL RACE :- **1**

**NOTE :-** \* Please Specify STD (ANSI B16.5 AND CLASS #150,300/ DIN /PN)

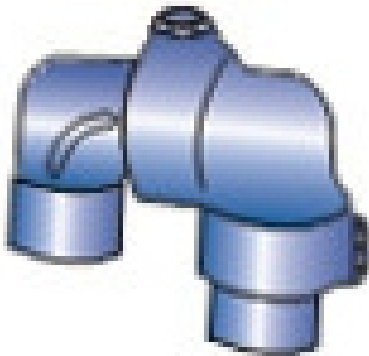


STYLE-05		SORF( ANSI16.5 CLASS#150 FLANGE)					
SIZE	MODEL NO.	SORT RADIUS ELBOW			LONG RADIUS ELBOW		
		(B)	(C)	(D)	(B)	(C)	(D)
DN25	CF600025AS5-2-S	-	-	-	83	171	163
DN32	CF600032AS5-2-S	-	-	-	96	184	185
DN40	CF600040AS5-2-S	-	-	-	104	195	205
DN50	CF600050AS5-2-S	115	200	200	127	225	250
DN65	CF600065AS5-2-S	118	223	233	134	235	295
DN80	CF600080AS5-2-S	131	239	260	169	277	336
DN100	CF6000100AS5-2-S	161	271	315	211	321	415
DN125	CF6000125AS5-2-S	209	333	379	271	396	504
DN150	CF6000150AS5-2-S	237	371	439	313	448	593
DN200	CF6000200AS5-2-S	287	425	544	389	537	747
DN250	CF6000250AS5-2-S	345	481	643	472	608	898
DN300	CF6000300AS5-2-S	403	543	750	555	694	1054

STYLE-05		WNRF( ANSI16.5 CLASS#150 FLANGE)					
SIZE	MODEL NO.	SORT RADIUS ELBOW			LONG RADIUS ELBOW		
		(B)	(C)	(D)	(B)	(C)	(D)
DN25	CF600025AS5-2-W	-	-	-	94	178	163
DN32	CF600032AS5-2-W	-	-	-	105	191	185
DN40	CF600040AS5-2-W	-	-	-	119	207	205
DN50	CF600050AS5-2-W	115	208	200	140	233	250
DN65	CF600065AS5-2-W	134	235	233	165	265	295
DN80	CF600080AS5-2-W	146	249	260	184	287	336
DN100	CF6000100AS5-2-W	178	284	315	228	334	415
DN125	CF6000125AS5-2-W	216	336	379	279	399	504
DN150	CF6000150AS5-2-W	241	371	439	318	448	593
DN200	CF6000200AS5-2-W	305	435	544	407	537	751
DN250	CF6000250AS5-2-W	356	484	644	483	611	898
DN300	CF6000300AS5-2-W	419	551	750	571	703	1054

# Model 6000

# STYLE : 06



**CF6000 25 A S1-2-S**

Basic Series :- **CF6000**

SIZE 1" :- **25**

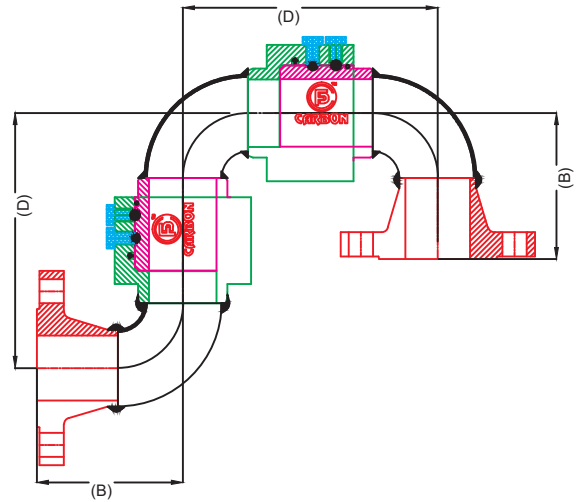
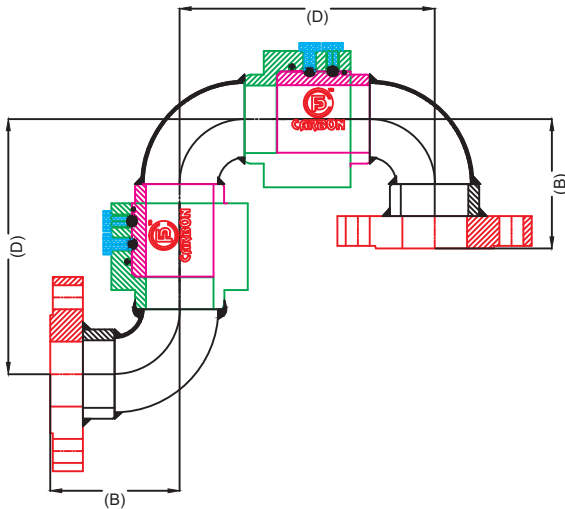
STYLE  
S1 TO S8

SORF FLANGE :- **S\***  
WNRF FLANGE :- **W\***

S.S :- **A**  
42CRMO4 :- **B**

DOUBLE BALL RACE :- **2**  
SINGLE BALL RACE :- **1**

**NOTE :-** \* Please Specify STD (ANSI B16.5 AND CLASS #150,300/ DIN /PN)

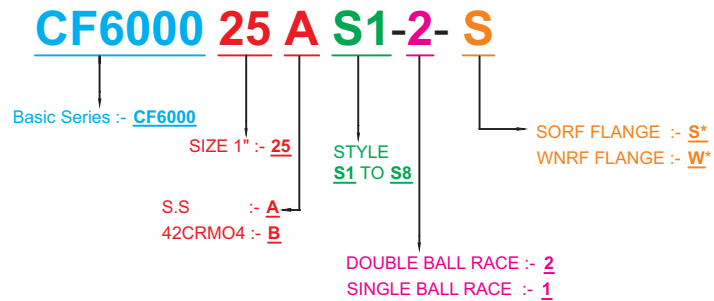
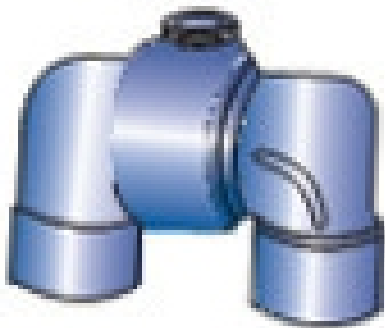


STYLE-06					
SIZE	MODEL NO.	SORF( ANSI16.5 CLASS#150 FLANGE)			
		SORT RADIUS ELBOW		LONG RADIUS ELBOW	
		(B)	(D)	(B)	(D)
DN25	CF600025AS6-2-S	-	-	83	163
DN32	CF600032AS6-2-S	-	-	96	185
DN40	CF600040AS6-2-S	-	-	104	205
DN50	CF600050AS6-2-S	102	200	127	250
DN65	CF600065AS6-2-S	118	233	149	295
DN80	CF600080AS6-2-S	131	239	169	277
DN100	CF6000100AS6-2-S	161	315	211	415
DN125	CF6000125AS6-2-S	209	379	271	504
DN150	CF6000150AS6-2-S	237	439	313	593
DN200	CF6000200AS6-2-S	287	544	389	747
DN250	CF6000250AS6-2-S	345	643	472	898
DN300	CF6000300AS6-2-S	403	750	555	1054

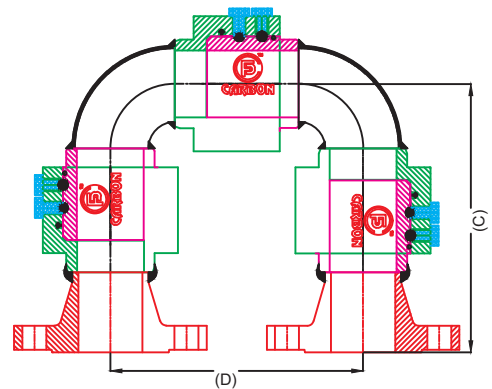
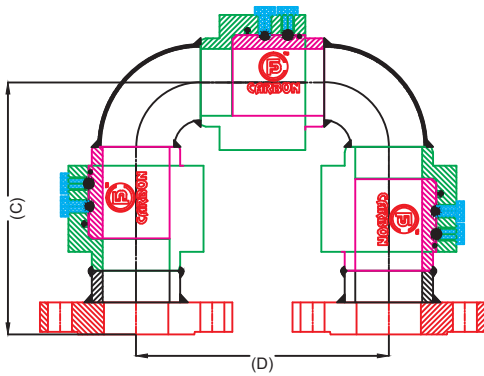
STYLE-06					
SIZE	MODEL NO.	WNRF( ANSI16.5 CLASS#150 FLANGE)			
		SORT RADIUS ELBOW		LONG RADIUS ELBOW	
		(B)	(D)	(B)	(D)
DN25	CF600025AS6-2-W	-	-	94	163
DN32	CF600032AS6-2-W	-	-	105	185
DN40	CF600040AS6-2-W	-	-	119	205
DN50	CF600050AS6-2-W	115	200	140	250
DN65	CF600065AS6-2-W	134	233	165	295
DN80	CF600080AS6-2-W	146	260	184	336
DN100	CF6000100AS6-2-W	178	315	228	415
DN125	CF6000125AS6-2-W	216	379	279	504
DN150	CF6000150AS6-2-W	241	439	318	593
DN200	CF6000200AS6-2-W	305	544	407	751
DN250	CF6000250AS6-2-W	356	644	483	898
DN300	CF6000300AS6-2-W	419	750	571	1054

# Model 6000

# STYLE : 07



**NOTE :-** \* Please Specify STD (ANSI B16.5 AND CLASS #150,300/ DIN /PN)

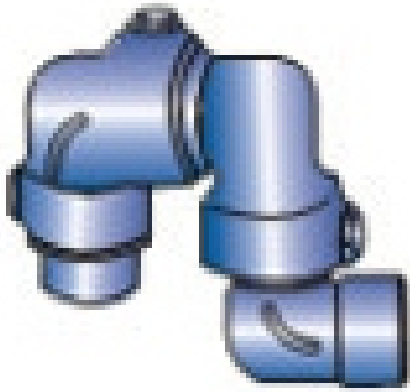


		STYLE-07			
SIZE	MODEL NO.	SORF( ANSI16.5 CLASS#150 FLANGE)			
		SORT RADIUS ELBOW		LONG RADIUS ELBOW	
		(C)	(D)	(C)	(D)
DN25	CF600025AS7-2-S	-	-	171	163
DN32	CF600032AS7-2-S	-	-	184	185
DN40	CF600040AS7-2-S	-	-	195	205
DN50	CF600050AS7-2-S	200	200	225	250
DN65	CF600065AS7-2-S	223	233	254	295
DN80	CF600080AS7-2-S	239	260	277	336
DN100	CF6000100AS7-2-S	271	315	321	415
DN125	CF6000125AS7-2-S	333	379	396	504
DN150	CF6000150AS7-2-S	371	439	448	593
DN200	CF6000200AS7-2-S	425	544	537	747
DN250	CF6000250AS7-2-S	481	643	608	898
DN300	CF6000300AS7-2-S	543	750	694	1054

		STYLE-07			
SIZE	MODEL NO.	WNRF( ANSI16.5 CLASS#150 FLANGE)			
		SORT RADIUS ELBOW		LONG RADIUS ELBOW	
		(C)	(D)	(C)	(D)
DN25	CF600025AS7-2-W	-	-	178	163
DN32	CF600032AS7-2-W	-	-	191	185
DN40	CF600040AS7-2-W	-	-	207	205
DN50	CF600050AS7-2-W	208	200	233	250
DN65	CF600065AS7-2-W	235	233	265	295
DN80	CF600080AS7-2-W	249	260	287	336
DN100	CF6000100AS7-2-W	284	315	334	415
DN125	CF6000125AS7-2-W	336	379	399	504
DN150	CF6000150AS7-2-W	371	439	448	593
DN200	CF6000200AS7-2-W	435	544	537	751
DN250	CF6000250AS7-2-W	484	644	611	898
DN300	CF6000300AS7-2-W	551	750	703	1054

# Model 6000

# STYLE : 08



## CF6000 25 A S1-2-S

Basic Series :- **CF6000**

SIZE 1" :- **25**

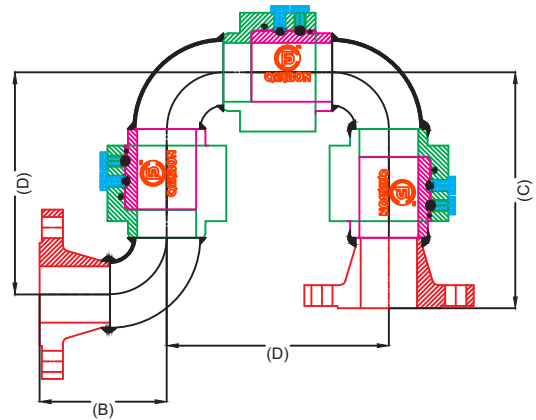
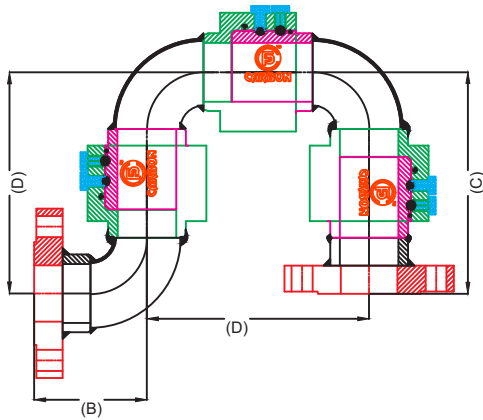
STYLE  
**S1 TO S8**

SORF FLANGE :- **S\***  
WNRF FLANGE :- **W\***

S.S :- **A**  
42CRMO4 :- **B**

DOUBLE BALL RACE :- **2**  
SINGLE BALL RACE :- **1**

**NOTE :-** \* Please Specify STD (ANSI B16.5 AND CLASS #150,300/ DIN /PN)



STYLE- 08							
SIZE	MODEL NO.	SORF (ANSI16.5 CLASS#150 FLANGE)					
		SORT RADIUS ELBOW			LONG RADIUS ELBOW		
		(B)	(C)	(D)	(B)	(C)	(D)
DN25	CF600025AS8-2-S	-	-	-	83	171	163
DN32	CF600032AS8-2-S	-	-	-	96	184	185
DN40	CF600040AS8-2-S	-	-	-	104	195	205
DN50	CF600050AS8-2-S	102	200	200	127	225	250
DN65	CF600065AS8-2-S	118	223	233	149	254	295
DN80	CF600080AS8-2-S	131	239	260	169	277	336
DN100	CF6000100AS8-2-S	161	271	315	211	321	415
DN125	CF6000125AS8-2-S	209	333	379	271	396	504
DN150	CF6000150AS8-2-S	237	371	439	313	448	593
DN200	CF6000200AS8-2-S	287	425	544	389	537	747
DN250	CF6000250AS8-2-S	345	481	643	472	608	898
DN300	CF6000300AS8-2-S	403	543	750	555	694	1054

STYLE- 08							
SIZE	MODEL NO.	WNRF (ANSI16.5 CLASS#150 FLANGE)					
		SORT RADIUS ELBOW			LONG RADIUS ELBOW		
		(B)	(C)	(D)	(B)	(C)	(D)
DN25	CF600025AS8-2-W	-	-	-	94	178	163
DN32	CF600032AS8-2-W	-	-	-	105	191	185
DN40	CF600040AS8-2-W	-	-	-	119	207	205
DN50	CF600050AS8-2-W	115	208	200	140	233	250
DN65	CF600065AS8-2-W	134	235	233	165	265	295
DN80	CF600080AS8-2-W	146	249	260	184	287	336
DN100	CF6000100AS8-2-W	178	284	315	228	334	415
DN125	CF6000125AS8-2-W	216	336	379	279	399	504
DN150	CF6000150AS8-2-W	241	371	439	318	448	593
DN200	CF6000200AS8-2-W	305	435	544	407	537	751
DN250	CF6000250AS8-2-W	356	484	644	483	611	898
DN300	CF6000300AS8-2-W	419	551	750	571	703	1054

## **CARBON®** STEPPED BALL RACE DESIGN :

The step swivel joint features an exclusive “stepped” ball race arrangement. As shown in the illustration above, this design adds considerable wall thickness under the male ball races to dramatically increase erosion allowance in this critical area without increasing swivel joint size or weight. Additionally the step design provides significantly higher bending and axial load capacities for improved strength and safety.

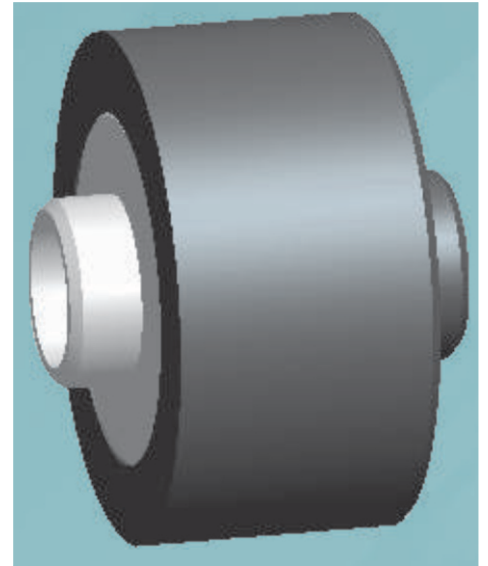
### **Elastomers Seal Design :-**

The standard single / double step swivel joint world proven instream packing technology for applications where elastomer seals and packing have performed acceptably. The packing is identical to the packing has been proven in a range of applications on a global basis.

Available packing materials include Viton, low temperature nitrile and others elastomers compounds. We are also use ptfeflon as an elastomer.

We are using 100% virgin ptfeflon impregnated gland packing as a standard.

Step swivel joints are defined with one / two machined grooves on the outside of female ball race.



## **SWIVEL JOINT STANDARD EXECUTION**

Welding Connection, Thread Connection, Flange Connection

**Type of Connections :** Nipple, Bushing, Flange & Welding

**Size :** 1“ to 21” or customised

**Pressure:** 400 bar (max.)



A swivel joint, sometimes referred to as a rotary union, provides a mechanical seal between a stationary supply pipe and a rotating drum or cylinder to permit the flow of cooling [water] transfer media into and/or out of the rotating roll in the CASTER OF CONTINUOUS CASTING MACHINE as well as TUNNEL FURNACE APPLICATIONS.



- CARBON ROTATING SYSTEMS PVT. LTD. offers **CARBON**<sup>®</sup> BRAND '6000' series long life, trouble-free unions from our own Research & Development that can accommodate a broad range of temperatures, pressures, viscosities and speeds.
- The seals have a surface finish of 4 RMS and are micro lapped to an optical flatness of better than 2 light bands for dependable leak-proof operation.
- The "6000" series solves the high wear problems encountered in the continuous casting machines of steel industry. It consists various seals viz: SIC/SIC, TC/TC, SIC/CARBON, CARBON/CERAMIC that are permanently inserted into stainless steel carriers to provide the ultimate wear assistance in harsh and abrasive environments.
- Further, the seal carriers provide structural integrity to the seals enabling them to withstand shock loads and vibrations due to uncontrollable process conditions like water hammering. The unions have been totally redesigned to accommodate space for a long sleeved bearing that provides full support to the stainless steel rotor and allows it to run smoothly. The entire media thrust load is withstood by a carbon impregnated ptfе static thrust washer. These unions are available in monoflow and dual flow versions for media inlet or outlet, and media inlet and outlet, respectively.

bearing that provides full support to the stainless steel rotor and allows it to run smoothly. The entire media thrust load is withstood by a carbon impregnated ptfе static thrust washer. These unions are available in monoflow and dual flow versions for media inlet or outlet, and media inlet and outlet, respectively.

- Bearing less design combines rigidity and low friction for long trouble-free service.
- Extra long impregnated Bearing to assure easy rotation.
- Brass housing & Brass hose connector and stainless steel Rotor to provide the ultimate protection against rust and corrosion.

Dimensions & Drawings are subject to change without prior notice.



# CARBON Global Network



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Website : [www.thecarbon.co.in](http://www.thecarbon.co.in), [www.swiveljoint.co.in](http://www.swiveljoint.co.in)