

## COMPLETE SOLUTION FROM ONE SOURCE !

MULTI PASSAGE / MULTI PORT /  
MULTI CHANNEL.....

- ROTARY UNIONS
- ROTARY JOINTS
- ROTARY INLETS
- ROTARY DISTRIBUTORS

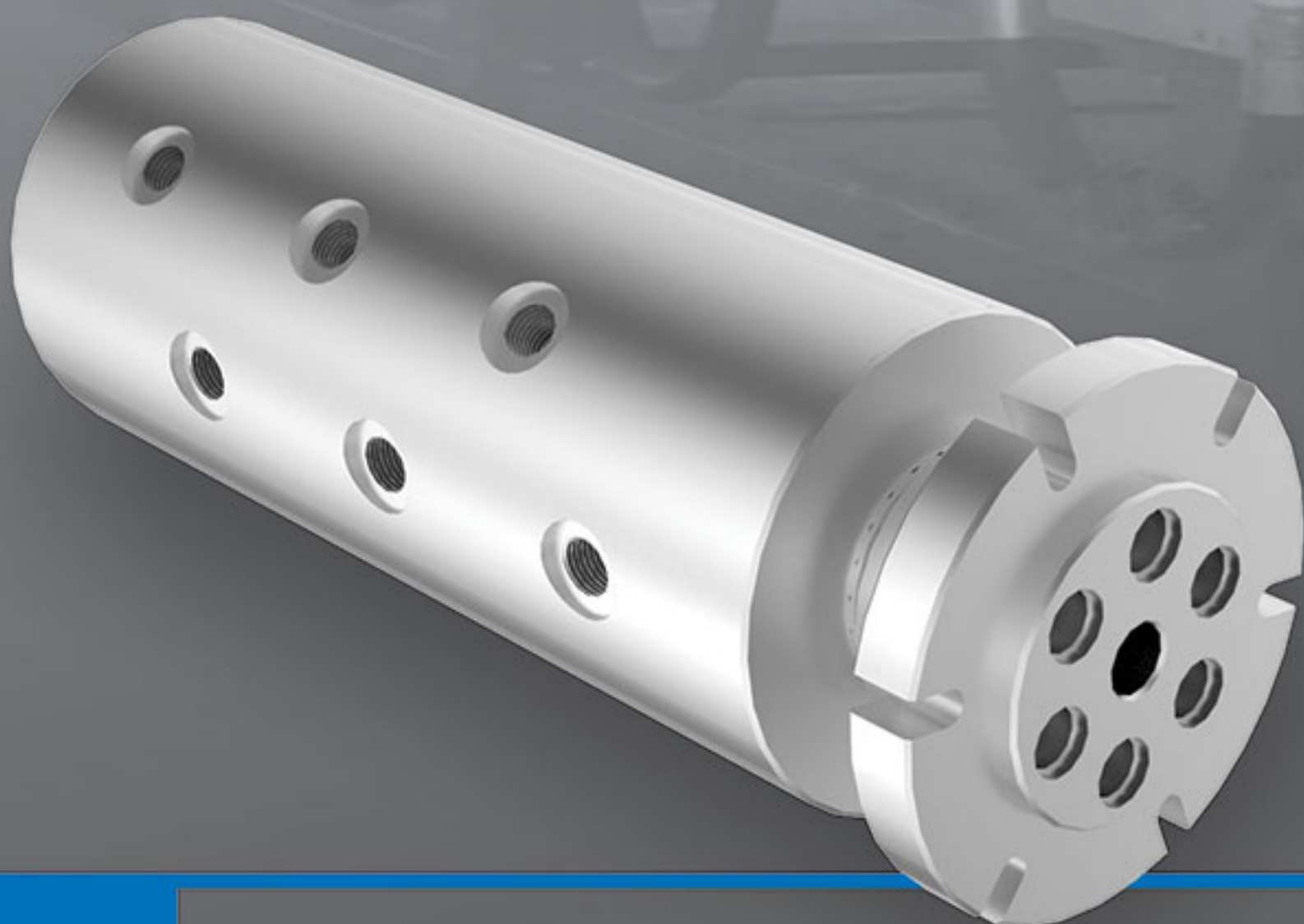
FLOW PASSAGE OPTIONS

**1** TO **24** PORTS /  
PASSAGES /  
CHANNELS



**MULTI PASSAGE / MULTI PORT / MULTI CHANNEL ...**

- **ROTARY UNIONS**
- **ROTARY JOINTS**
- **ROTARY INLETS**
- **ROTARY DISTRIBUTORS**



## COMPLETE SOLUTION FROM ONE SOURCE !

- PRODUCT DESIGNING  
WITH EFFICIENT ENGINEERING

- PRECISION WITH CNC  
MACHINING.

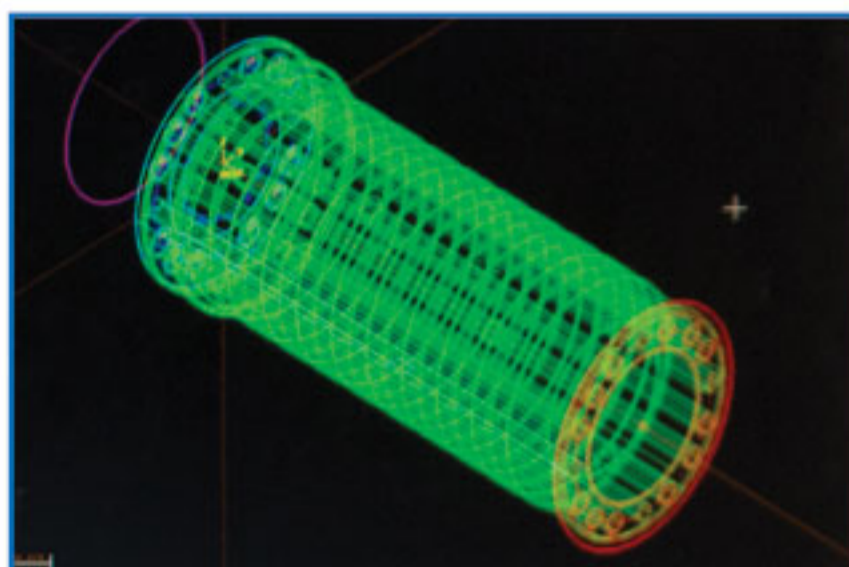
- ASSEMBLY, TESTING &  
INSPECTION.

- PRODUCT QUALITY CONTROL.

- VALUE ADDED SERVICES.

- HIGHEST PERFORMANCE  
WITH RELIABILITY.





## A HISTORICAL SUMMARY



GROUP 'FOURWENTS' WAS FOUNDED IN 1958 AT AHMEDABAD, GUJARAT, INDIA, BY MR. S. N. MODAK. HE WAS THE CAPTAIN OF BATTALION IN BRITISH ARMY, DURING SECOND WORLD WAR.

IN THOSE DAYS, 'FOURWENTS' MANUFACTURED DIFFERENT KINDS OF SPARE PARTS FOR VARIOUS PROCESS MACHINERIES & INDUSTRIES. IN 1968, WE COMMENCED THE PRODUCTION OF IMPORT SUBSTITUTES PROCESS EQUIPMENTS, INDUSTRIAL & PROCESS ROLLERS, CHILL ROLLERS, HOT & COOL ROLLERS, CAN DRYERS & ROTARY UNIONS, ROTARY JOINTS, SWIVEL JOINTS & SYPHON SYSTEMS. ULTIMATELY 'FOURWENTS' PRODUCTS BECAME PRIMARY CHOICE IN MANY INDUSTRIES.

TODAY, 'FOURWENTS' HAS BECOME A FIRST TIER SUPPLIER TO LEADING MANUFACTURERS SERVING DIVERSIFIED INDUSTRIES LIKE :-

FILM, PLASTICS, PAPER, PACKAGING, TEXTILE, PRINTING, FOOD, PHARMACEUTICAL / CHEMICAL, RUBBER & TYRE, GLASS, STEEL & ALUMINIUM, AUTOMOTIVE, INSULATION, PETROLEUM, MAN MADE FIBRE AND MANY OTHER INDUSTRIES IN INDIA & MORE THAN 30 COUNTRIES IN THE WORLD.



OUR STRENGTH IS NOT ONLY THE PRODUCTION OF COMMON DESIGNS, BUT ALSO THE DEVELOPMENT OF COMPLETELY NEW DESIGNS FOR SPECIAL APPLICATIONS TO GATHER ALL ADVANTAGES FOR YOUR BENEFIT.

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# COMPLETE SOLUTION FROM ONE SOURCE !



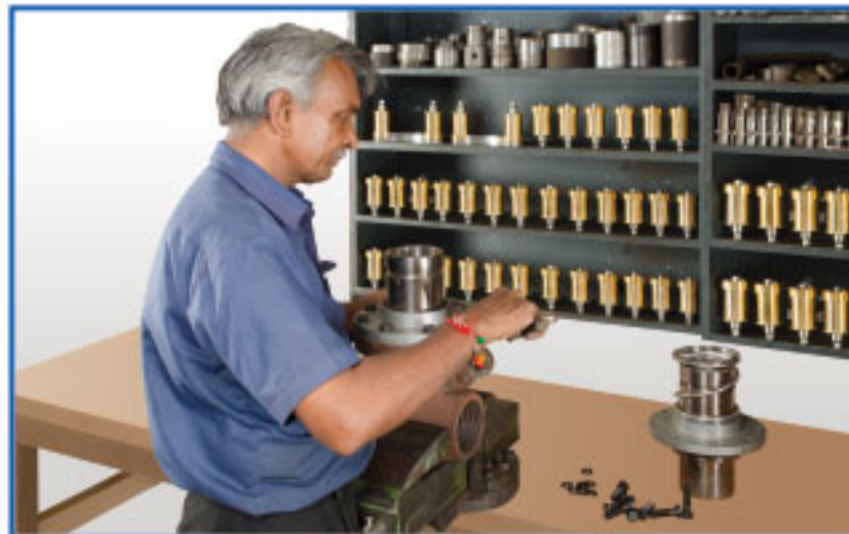
## 'FOURWENTS' DEVELOPMENT

A DEVELOPMENT FROM PRACTICAL EXPERIENCE.

AT 'FOURWENTS' , WE FEEL EVERY APPLICATION DESERVES ITS OWN OPTIMAL SOLUTION. THAT'S WHY WE HAVE DEVELOPED THE WIDEST LINE OF ROTARY JOINTS & UNIONS AND SYPHONS AVAILABLE.

'FOURWENTS' PRODUCTS MEET ALMOST ANY NEED WHATEVER THE PROCESS, SPEED, MEDIUM, PRESSURES, TEMPERATURES OR OTHER APPLICATIONS, CONDITIONS, WE OFFER SELF-SUPPORTED, ROD SUPPORTED AND BRACKET-MOUNTED ROTARY UNIONS / JOINTS FOR HANDLING STEAM, WATER, HOT WATER, COOLING WATER, COOLANT, AIR, VACUUM, HYDRAULIC, BRINE, GASES, HOT HEAT- TRANSFER- OILS, VAPOURS AND OTHER LIQUIDS OR MEDIA & STATIONARY SYPHON SYSTEMS FOR ALL SPEED RANGES AND OTHER ACCESSORIES.

TODAY THE COMPANY PRODUCES A VERY WIDE RANGE OF EASILY REPLACEABLE STANDARD AND



SPECIAL ROTARY UNIONS / JOINTS AND ALLIED ACCESSORIES FOR THE DEMANDING REQUIREMENTS OF MODERN MACHINERIES.

## 'FOURWENTS' PRODUCTION

A PRODUCTION WITH HIGH MANUFACTURING QUALITY.

A SCIENTIFIC COMBINATION OF DIFFERENT TECHNOLOGIES SUCH AS HIGHLY ADVANCED MACHINING CENTERS EQUIPPED - WITH STATE-OF-THE-ART PROCESS. OUR HIGHLY SKILLED TEAM OF TECHNICIAN / EXPERT ENGINEERS AND CNC SPECIALISTS HAVE RESULTED SUPERIOR PERFORMANCE OF OUR ROTARY UNION & OTHER PRODUCTS. ALL SEALING SURFACES ARE PRECISELY LAPPED.



WE MEASURE THE INDIVIDUAL COMPONENT WITH PRECISION MEASURING INSTRUMENTS AND FINALLY UNITS ARE ASSEMBLED AND ALSO TESTED ON TEST BENCHES UNDER PRACTICAL CONDITIONS IN ORDER TO GUARANTEE THE QUALITY AND OPERATIONAL RELIABILITY OF THE PRODUCT. AFTER ALL, IN THE END, OUR QUALITY IS THE DECIDING FACTOR.



Subject to technical change without notice.

*Ideal for New as well as Easy Retrofit Installations...*

## 'FOURWENTS' PROVIDES AND ASSURES OUR CUSTOMER PROJECTS



## MULTI PASSAGE ROTARY UNIONS APPLICATION GUIDE

THE MAJOR LISTED APPLICATIONS ARE USED THROUGHOUT THESE INDUSTRIES.

### INDUSTRIES

- AEROSPACE.
- ASSEMBLY & HANDLING.
- AGRICULTURE.
- AUTOMOTIVE.
- ALTERNATIVE ENERGY / HYDRO ELECTRIC.
- AIR SUPPLY TO ROTARY / PIVOT SHAFTS OF TURNABLES & ROBOT ARMS, AIR LINE EQUIPMENTS, AUTOMOTIVE, SEMI-CONDUCTORS, LIFE SCIENCE & MACHINE TOOLS.
- CONSTRUCTION.
- CUTTING MACHINE TOOLS.
- COIL PROCESSING.
- DEFENSE.
- FACTORY AUTOMATION / AUTOMATIONS.
- FOOD, BEVERAGES & BREWERIES.
- HYDRAULIC EQUIPMENTS.
- HYDRO ELECTRIC KAPLAN TURBINES.
- PACKAGING & PROCESSING.
- PRINTING & CONVERTING.
- MACHINE TOOLS.
- MARINE.
- MARINE PROPULSION SYSTEMS.
- MEDICAL.
- METAL PRODUCTIONS / STEEL & IRON INDUSTRIES.
- OIL & GAS.
- OFF SHORE ( HOSE REELS ).
- PLASTIC MOULDINGS / PLASTIC INDUSTRIES.
- SPM ( SPECIAL PURPOSE MACHINES )
- WIND TURBINES HYDRAULIC BLADE PITCH.
- ROTARY UNIONS APPLICATIONS IN INDUSTRIAL CRANES.
- FOR BLADE PITCH CONTROL.

### INDUSTRIES

- COMPLETING SYSTEMS.
- FOR CLUTCH ACTUATION.
- USED TO ACTUATE PNEUMATIC OR HYDRAULIC DEVICES ON MULTI STATION INDEX TABLES.
- APPLICATION IN HOT ROLLING, DOWN COILER, COLD ROLLING TENSION PAY OF, HIGH POWER PROCESS IN STEEL PLANTS / STEEL INDUSTRIES.
- MULTI PORTS / MULTI CIRCUITS ROTARY UNIONS SUITABLE FOR LADLE TURRETS FOR IN COMBINATION SERVICES OF : OIL, ARGON, AIR AND WATER. ( FOR STEEL PLANTS IN CONTINUOUS CASTING OPERATIONS / CCM ).
- MULTI PORTS AROUND / OVER THE SHAFT.
- ROTARY UNIONS FOR CCM & STEEL PLANT APPLICATIONS.
- MULTI PORTS ROTARY UNIONS / ROTO UNITS FOR GREASE APPLICATIONS.
- FLANGE & ROTOR MOUNTED MULTI PORTS ROTARY UNIONS.
- FOR APPLICATIONS IN FOOD BEVERAGES & BREWERIES.
- ROBOTS.
- TUNNEL BOARING MACHINES.
- TEST CENTRIFUGES.
- SEPARATOR CENTRIFUGES.
- TORSION TEST RINGS.
- AIR PREPARATION EQUIPMENTS.

### IN METAL / STEEL PRODUCTIONS

- ROTARY UNIONS FOR COILER EXPANDING MANDREL APPLICATIONS.
- MULTI PASSAGE ROTARY UNIONS FOR LADLE TURRETS.
- MULTI PASSAGE ROTARY UNIONS FOR WINDING MACHINE.
- MULTI PASSAGE ROTARY UNIONS FOR PNEUMATIC GRIPPERS.
- ROTARY UNION / ROTO UNITS TO SUPPLY GREASE A HOT ROLLING COILER MANDREL APPLICATIONS
- ROTARY UNIONS WITH AN ELECTRICAL SLIP RINGS

Subject to technical change without notice.

**THE RIGHT & GREAT VARIETY** OF OUR MULTI PASSAGE /  
 MULTI PORT / MULTI CHANNELS ROTARY UNIONS /  
 ROTARY JOINTS / ROTARY DISTRIBUTORS  
**ARE PRIMARY CHOICE IN WIDE RANGE OF INDUSTRIES...**

**ACHIEVE THE BEST & HIGHEST IN PERFORMANCE & RELIABILITY.**



**MULTI PASSAGE ROTARY UNIONS APPLICATION GUIDE**  
 THE MAJOR LISTED APPLICATIONS ARE USED THROUGHOUT THESE INDUSTRIES.

**FOR RUBBER & TYRE INDUSTRIES**

- ROTARY AIR DISTRIBUTORS / ROTARY JOINTS
- **FOR TBR-TBM**  
(TRUCK BUS RADIAL TYRE BUILDING MACHINES )
- **FOR PCR-TBM**  
(PASSENGER CAR RADIAL TYER BUILDING MACHINES )
- **FOR MC-TBM**  
(MOTORCYCLE TYER BUILDING MACHINES )

**FOR ALTERNATIVE ENERGY**

- HIGH TEMPERATURE SWIVELS FOR CONCENTRATED SOLAR POWER.
- ROTATING JOINTS FOR AUTOMATED APPLICATIONS IN NUCLEAR POWER.
- HYDRAULIC ROTARY UNIONS FOR WIND TURBINES BLADE PITCH CONTROL.
- ROTARY JOINTS FOR HYDROELECTRIC (KAPLAN) TURBINE PITCH SYSTEMS.

**FOR PLASTIC MOULDING**

- ROTARY UNIONS FOR MULTI- MATERIAL PLASTIC INJECTION MOULDING APPLICATIONS.
- ROTARY UNIONS FOR BLOW MOULDING EQUIPMENTS.
- ROTARY JOINTS FOR HYDROELECTRIC (KAPLAN) TURBINE PITCH SYSTEMS.
- SPECIALIZED ROTARY UNIONS FOR ROTARY TABLE INTEGRATION.

**INDUSTRIES**

- ROTARY UNIONS DESIGNED FOR A TUNNEL BORING EQUIPMENTS
- ROTARY UNIONS DESIGNED FOR A LARGE SCALE MINING EQUIPMENTS
- ROTARY UNIONS DESIGNED FOR A COMPONENT ON A HEAVY MACHINE APPLICATIONS.
- ROTARY UNIONS FOR ROTARY FILLING EQUIPMENTS APPLICATIONS.
- ROTARY UNION FOR STEAM FOR BOTTLE WASHING APPLICATIONS.
- SHAFT MOUNTING ROTARY UNIONS FOR CLEAN AIR TRANSFER.
- ROTARY UNIONS FOR MATERIAL HANDLING SYSTEMS.
- ROTARY UNIONS FOR WASH DOWN ENVIRONMENTS.
- ROTARY UNIONS DESIGNED FOR A ROTATING VISCOUS HAIR PRODUCT FILLING SYSTEM.
- ROTARY UNION DESIGNED FOR A GRAIN PROCESSING APPLICATIONS.
- ROTARY UNION DESIGNED FOR A BOTTLE PACKAGING MACHINE APPLICATIONS

**FOR WIND TURBINES**

- ROTARY UNIONS FOR GEAR BOX SYSTEMS.
- SPECIALLY SHAFT MOUNTED ROTARY UNIONS.
- HIGH PRESSURE MULTI PASSAGE DESIGNED ROTARY UNIONS FOR WIND TURBINES IN WIND MILLS.
- INTEGRATED MOUNTING AND ELECTRICAL SLEEP RING OPTIONS.
- SPECIALIZED STAINLESS STEEL ROTARY UNIONS FOR OFF SHORE ENVIRONMENTS.
- SPECIALIZED DESIGNED ROTARY UNION FOR DIRECT INTEGRATION INTO CLIENT, EQUIPMENTS

Subject to technical change without notice.



Food & Beverages industries



Aerospace Industries



Automotive Industries



Agriculture



Off-Shore & Marine



Pharmaceutical Industries



Test Centrifuges



Robotic Arms



Oil & Gas



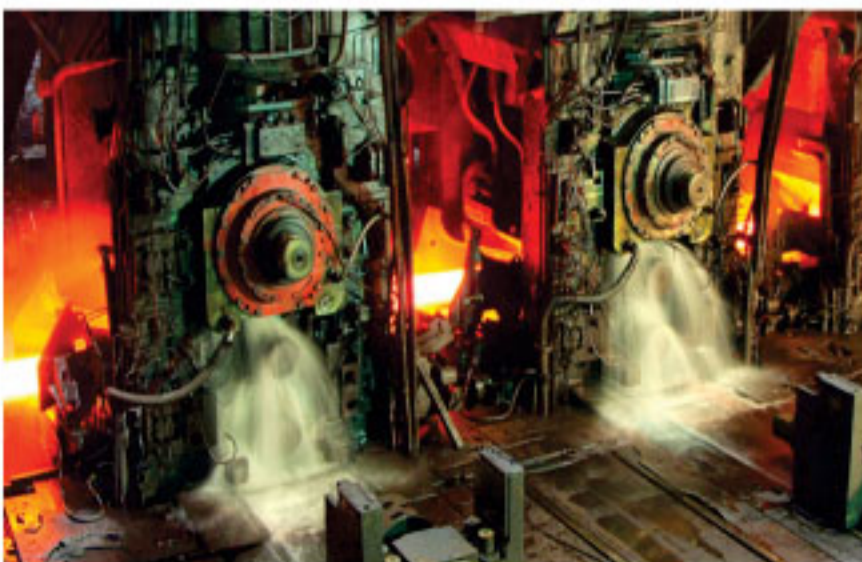
Rubber & Tyre Industries



Machine Tools



Hydraulic Applications



Steel industries ( CCM )



Medical

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**THE RIGHT & GREAT VARIETY** OF OUR MULTI PASSAGE /  
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Tunnel Boaring Machines



Industrial Crains



Grease Applications



Defense



Machining Operations



Food Processing



Packaging Industries



Rail Transportation



Wind Turbines



Factory Automation



Earth Moving Equipments



Nuclear Power Plant



Plastic Production Line



Plastics Industries

Subject to technical change without notice.

*Ideal for New as well as Easy Retrofit Installations...*



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THE **WHOLE WORLD** OF MULTI PASSAGE /  
MULTI PORT / MULTI CHANNELS... ROTARY UNIONS /  
ROTARY JOINTS / ROTARY DISTRIBUTORS



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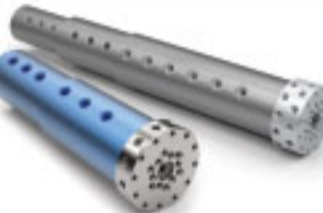



THE **WHOLE WORLD** OF MULTI PASSAGE /  
MULTI PORT / MULTI CHANNELS...  
**SPECIFIC** ROTARY UNIONS /  
ROTARY JOINTS / ROTARY DISTRIBUTORS




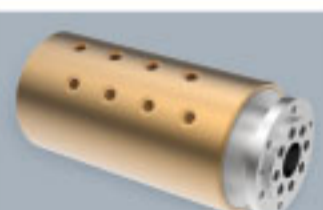



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*Ideal for New as well as Easy Retrofit Installations...*

**MULTI PASSAGE / MULTI PORT / MULTI CHANNEL ROTARY UNIONS  
FOR AIR, COOLANT, WATER, GASES, STEAM & OIL APPLICATIONS**


PRODUCT PHOTO	TYPE	DESCRIPTION	PORT SIZE	No OF INLET PORTS/PASSAGE	MAX. OPERATING DATA			PAGE NO.
					Pressure PSI	Temp. °F	Speed RPM	
	<b>FDGA</b>	<b>FDG - SERIES</b> FOR GENERAL PURPOSE	1/8", 1/4" 3/8", 1/2" 3/4", & 1"	2, 3, 4, 6, 8, 10 & 12	7700 PSI VACUUM- 28" HG	250	500	19 TO 29
	<b>FDLC</b>	<b>FDL - SERIES</b> FOR LOW TORQUE SERVICE	1/8" & 3/8"	2, 4, 8, 12, & 24	600 PSI VACUUM- 28" HG	250	500	30 TO 37
	<b>FDHC</b>	<b>FDH - SERIES</b> FOR HIGH PRESSURE UP TO 7500 PSI	1/8"	2, 4, 6, 8, 12 16 & 24	7500 PSI VACUUM- 28" HG	250	300	38 TO 47
	<b>FDHSS</b>	<b>FDHS - SERIES</b> FOR HIGH PRESSURE UP TO 20,000 PSI ( STAINLESS STEEL CONSTRUCTION )	9/16" (18UNF) & 3/4" (14NPS)	1, 3, 4, 6, 8, 12, & 16	20,000 PSI	250	50	48 TO 55
	<b>FDHVC</b>	<b>FDHV - SERIES</b> FOR HIGH VOLUME APPLICATIONS ( CORROSION RESISTANT )	3/4", 1" 1-1/4" & 1-1/2"	3, 4, 6, 8	5,000 PSI VACUUM- 28" HG	250	50	56 TO 60

**ROTARY UNIONS FOR AIR HYDRAULIC, COOLANT,  
WATER, VACUUM & GAS APPLICATIONS ( FDU-AHS SERIES )**




	<b>FMMP</b>	MULTI PASSAGE ROTARY UNIONS	1/4" TO 1"	2 TO 10	OIL-400 GAS-150 AIR-150 WATER-150	175	250	61 TO 62
	<b>FDFM</b>	MULTI PASSAGE ROTARY UNIONS	1/4" TO 3/8"	8 AND 10	150	175	250	63
	<b>FDU 400</b>	HIGH PRESSURE MULTI PORT ROTARY UNIONS	1/4" TO 1-1/4"	2 TO 8	5800	250	175	64
	<b>FDU 3000</b>	HIGH SPEED MULTI PORT ROTARY UNIONS	1/8" TO 3/8"	2 TO 4	175	250	3000	65
	<b>FDU FP 4000</b>	MULTI PASSAGE ROTARY UNIONS	3/8" TO 1/2"	4	150	180	10 TO 250	66

Subject to technical change without notice.







**ROTARY UNIONS FOR AIR HYDRAULIC, COOLANT,  
WATER, VACUUM & GAS APPLICATIONS ( FDU-AHS SERIES )**

PRODUCT PHOTO	TYPE	DESCRIPTION	PORT SIZE	No OF INLET PORTS/PASSAGE	MAX. OPERATING DATA			PAGE NO.
					Pressure PSI	Temp. °F	Speed RPM	
	FMP 5171	MULTI PASSAGE HIGH PRESSURE ROTARY UNIONS	1/4"	1 TO 4	2900	140	3000	67




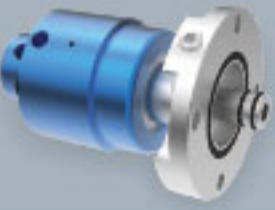



**AROUND THE SHAFT & OVER THE SHAFT ROTARY UNIONS FOR AIR, WATER, VACUUM & OIL APPLICATIONS ( ATS-OTS SERIES )**

	FD-OTS	OVER THE SHAFT ROTARY UNIONS	1" TO 16"	2	150	220	1000	68 TO 71
	FD-ATS	AROUND THE SHAFT DUO-FLOW ROTARY UNIONS	3/4"	2	150	250	10	
	FD-ATS	AROUND THE SHAFT HIGH SPEED, LOW PRESSURE AROUND THE SHAFT HIGH PRESSURE, LOW SPEED	1/4" 1/2"	2	175 5800	250	3000 100	

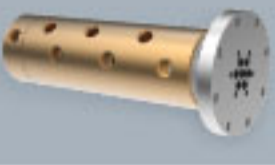




**ROTARY UNIONS FOR GENERAL SPECIFIC ( CUSTOMIZED ) APPLICATIONS ( SPECIFIC )**

	FMMP	3 PASSAGE MULTI PURPOSE AIR HYDRAULIC ROTARY UNIONS	3/8"	3	250	175	10 TO 250	72
	FMMP	4 PASSAGE MULTI PURPOSE AIR HYDRAULIC ROTARY UNIONS	1/8"	4	AIR 150	175	10 TO 250	73
	FMMP	3 PASSAGE MULTI PURPOSE AIR HYDRAULIC ROTARY UNIONS	(2) x 3/8" (1) x 1/4"	3	150	175	250	74
	FMMP	6 PASSAGE MULTI PURPOSE AIR HYDRAULIC ROTARY UNIONS	1/4"	6	150	175	250	75
	FMMP	9 PASSAGE MULTI PURPOSE AIR HYDRAULIC ROTARY UNIONS	1/2"	9	10kg / cm <sup>2</sup>	80	10 TO 250	76
	FDFM	MULTI PASSAGE ROTARY UNIONS	1" & 1-1/2"	8	950	175	15	77



**ROTARY UNIONS FOR GENERAL SPECIFIC ( CUSTOMIZED )  
APPLICATIONS ( SPECIFIC )**

PRODUCT PHOTO	TYPE	DESCRIPTION	PORT SIZE	No OF INLET PORTS/PASSAGE	MAX. OPERATING DATA			PAGE NO.
					Pressure PSI	Temp. °F	Speed RPM	
	FD 4000	FLANGE MOUNTED SIX PASSAGE AIR HYDRAULIC ROTARY UNIONS	3/8"	6	AIR 145 HYD. 870	175	250	78
	FD 4000	4 PASSAGE MULTI PURPOSE AIR HYDRAULIC ROTARY UNIONS	(2) x 3/4" & (2) x 1/2"	4	150	175	10 TO 250	79
	FDAF-DP	FLANGE MOUNTED DUAL PASSAGE AIR / OIL ROTARY UNIONS	1/4"	2	150	121	1200	80
	FDAF-DP	FLANGE MOUNTED DUAL PASSAGE AIR ROTARY UNIONS	1/4"	2	150	121	1200	81
	FDAF-DP	FLANGE MOUNTED DUAL PASSAGE AIR ROTARY UNIONS	1/2"	2	150	121	1000	82
	FDAF-DP	FLANGE MOUNTED DUAL PASSAGE AIR ROTARY UNIONS	1/2"	2	150	121	1000	83
	FDAF-TP	FLANGE MOUNTED TRIPLE PASSAGE AIR HYDRAULIC ROTARY UNIONS	1/2"	3	150	---	1000	84





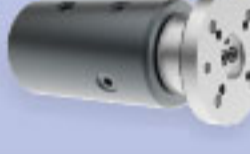
**ROTARY UNIONS ' LADLE TURRET ' FOR CONTINUOUS CASTING  
OPERATIONS ( SPECIFIC - AHS-LT SERIES )**

	FDLT	7 Passage	---	7	HYD.OIL 2900 COMP. AIR 116	160	600 500	85
	FDLT	10 Passage	---	10	HYD.OIL 3045 COMP. AIR 145	160	10	
	FDLT	10 Passage	---	10	ARGON-150 WATER-300 AIR- 150 HYD. OIL-3625	250	20	86
	FDLT	6 Passage	1/2" TO 3/4"	6	HYD.OIL 3625 COMP. AIR 145	176	10	87
	FDLT	11 Passage	3/4" TO 1-1/2"	11	4570	176	1	88

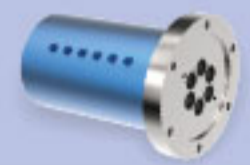



**LARGE ROTARY UNIONS  
FOR STEEL PLANT APPLICATIONS ( SPECIFIC - LRJ SERIES )**

PRODUCT PHOTO	TYPE	DESCRIPTION	PORT SIZE	No OF INLET PORTS/PASSAGE	MAX. OPERATING DATA			PAGE NO.
					Pressure PSI	Temp. °F	Speed RPM	
	LRJ	4 PORT / PASSAGES LARGE ( IN DIAMETERS ) ROTARY UNIONS	2" X 2-1/2"	4	90	175	6	89
	LRJ	6 PORT / PASSAGES LARGE ( IN DIAMETERS ) ROTARY UNIONS	3/4" X 2"	6	90	175	6	90








**ROTARY UNIONS / ROTO UNITS  
FOR GREASE APPLICATIONS ( SPECIFIC FGU SERIES )**

	FGR	2 PASSAGE	---	2	5075	205	100	91
	FGR	3+2 PASSAGE	---	3+2	HYDR. 1450 GREASE 5800	160	450 600	
	FGR	2 PASSAGE	1/2"	2	5800	175	200	92
	FGR	1 PASSAGE	1"	1	4350	175	200	93
	FGR	2 PASSAGE	3/8"	2	3625	175	800	

**ROTARY UNIONS FOR GENERAL SPECIFIC ( CUSTOMIZED )  
APPLICATIONS ( SPECIFIC )**

	FDU SP 6000	6 PASSAGE MULTI PURPOSE AIR HYDRAULIC ROTARY UNIONS	1/4"	6	AIR-150 HYD-6000	175	10 TO 250	94
	FMP FB3-2550	2 PASSAGE MULTI PURPOSE AIR HYDRAULIC ROTARY UNIONS	1-1/16"	2	AIR 150	175	10 TO 250	95
	FMP-SPL	MULTI PASSAGE HIGH PRESSURE ROTARY UNIONS	----	2 TO 20	150	175	250	96
	FDC	MULTI PASSAGE HIGH PRESSURE ROTARY UNIONS	1/2"	3	1000	121	1000	97

**ROTARY UNIONS FOR FOOD, BEVERAGES &  
BREWERIES APPLICATIONS ( FB SERIES )**

PRODUCT PHOTO	TYPE	DESCRIPTION	ROTOR SIZE	PORT SIZE	No OF INLET PORTS/PASSAGE	MAX. OPERATING DATA			PAGE NO.
						Pressure PSI	Temp. °F	Speed RPM	
	<b>FMP FB3-1550</b>	FLANGE MOUNTED TRIPLE PASSAGE WATER TRANSFER ROTARY UNIONS	---	12.7 TO 51MM & ABOVE	3	200	----	24	98
	<b>FMP FB-TM1</b>	FLANGE MOUNTED SINGLE PASSAGE FOOD PROCESSING ROTARY UNIONS	---	AS REQUIRED	1	250	----	24	
	<b>FMP FB-TM2</b>	DUAL PASSAGE MULTIPLE OUTLET FOOD PROCESSING ROTARY UNIONS	---	AS REQUIRED	2	300	----	24	
	<b>FMP FB-TM3</b>	FLANGE MOUNTED DUAL PASSAGE MULTIPLE OUTLET HYDRAULIC UNIONS	---	AS REQUIRED	2	350	----	24	
	<b>FMP FB3-2550</b>	FLANGE MOUNTED TRIPLE PASSAGE GAS & OTHER MEDIA TRANSFER ROTARY UNIONS	---	25 TO 51MM & ABOVE	3	200	----	24	99
	<b>FMP FB6-0610</b>	FLANGE MOUNTED SIX PASSAGE GAS TRANSFER ROTARY UNIONS	---	6.35 TO 9.5MM	6	200	----	24	
	<b>FMP FB3/48-1503</b>	ROTOR MOUNTED TRIPLE PASSAGE INLET & 96(48+48) OUTLET FOR WATER DISTRIBUTION ROTARY UNIONS	---	WATER-(1)X1/2" AIR -(2)X 1/8"	3	WATER 43 AIR 30	WATER 131 AIR 113	24	100

**SPECIAL APPLICATIONS**

MANY OF OUR PRODUCTS ARE NOT SHOWN IN THIS CATALOGUE AS THEY ARE ONE - OFF ARTICLES ORDERED BY OUR CUSTOMERS.

THEY ARE EITHER MODIFIED VERSIONS OF OUR STANDARD ITEMS OR CUSTOM-BUILT ARTICLES WHICH ARE DESIGNED FROM SCRATCH IN ORDER TO FULFILL OUR CUSTOMER'S REQUIREMENTS IN TERMS OF AVAILABLE SPACE OR SPECIFIC OPERATING CONDITIONS.

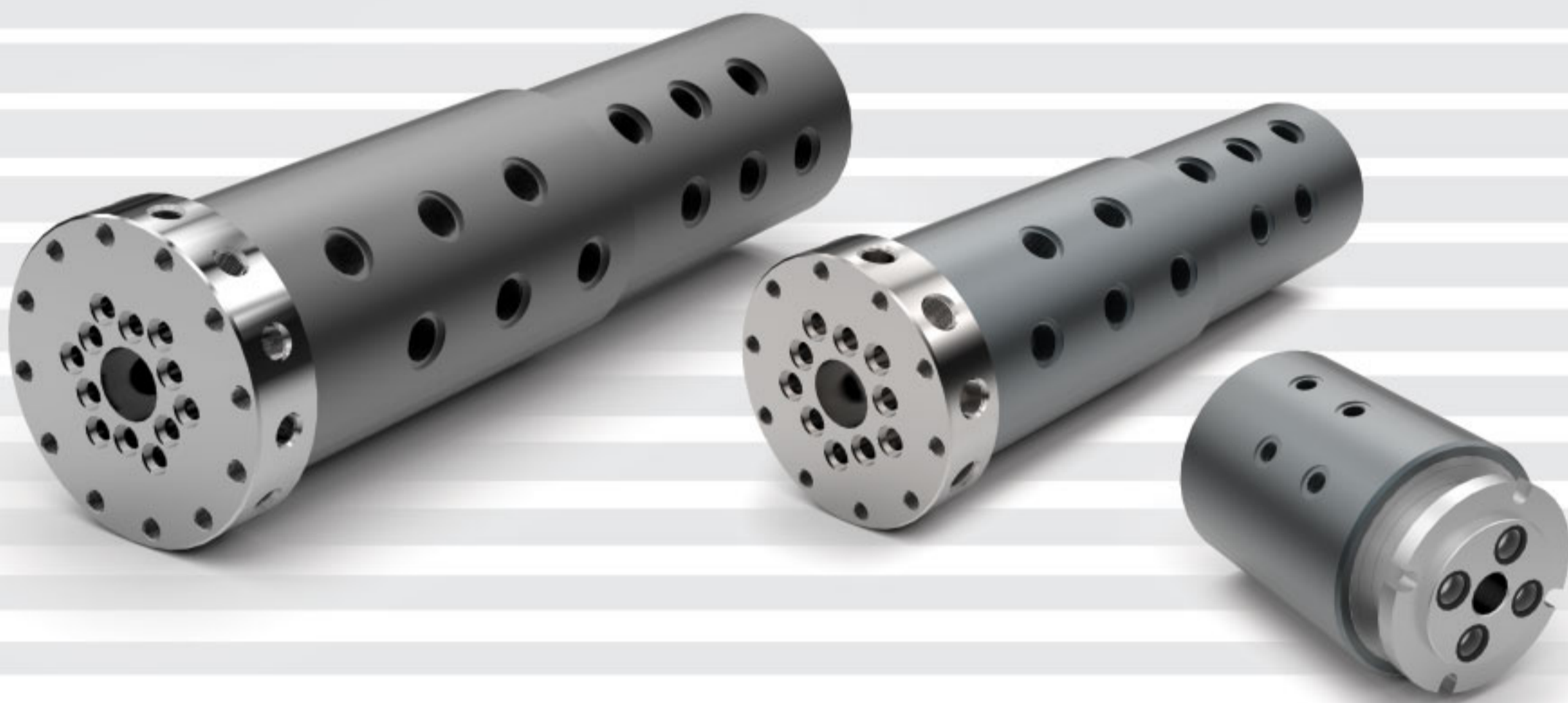


**GIVE US YOUR SPECIFICATIONS...  
OUR ENGINEERING & DEVELOPMENT DEPARTMENT WILL PROVIDE YOU WITH A SUITABLE TECHNICAL SOLUTION.**

# FDG SERIES

( GENERAL PURPOSE )

MULTI PASSAGE / MULTI PORT / MULTI CHANNEL  
ROTARY UNIONS / ROTARY JOINTS / ROTARY DISTRIBUTORS



**'FOURWENTS'** ROTARY UNIONS ARE ENGINEERED TO ENDURE A WIDE RANGE OF APPLICATIONS FOR A VARIETY OF ENVIRONMENTS & WORKING CONDITIONS.

'FOURWENTS' ROTARY UNIONS OF MULTI PASSAGES / PORTS ARE MOST SUITABLE TO HANDLE DIFFERENT TYPES OF MEDIA LIKE: AIR, COOLANT, WATER, GASES, STEAM & OILS SIMULTANEOUSLY.

**TELL US ABOUT YOUR REQUIREMENTS / APPLICATIONS, SO THAT 'FOURWENTS' CAN MAKE PROPER RECOMMENDATIONS.**

- NO. OF PASSAGES / PORTS / CHANNELS REQUIRED
- MEDIA TO BE HANDLE.
- WORKING PRESSURE.
- WORKING TEMPERATURE.
- MAX. SPEED ( RPM )
- PASSAGE / PORT / CHANNEL SIZE REQUIRED
- CONNECTION TYPE: NPT , BSP, BSPT, 'O' RINGS ETC.
- MOUNTING DIMENSIONS IF SPECIFIC.

**FOR GENERAL PURPOSE  
FDGA 2, 3, 4, 6 & 8 PASSAGE ROTARY UNIONS**



**TYPE : FDGA**  
SIZES : 1/8" TO 1"

**DESIGN FEATURES**

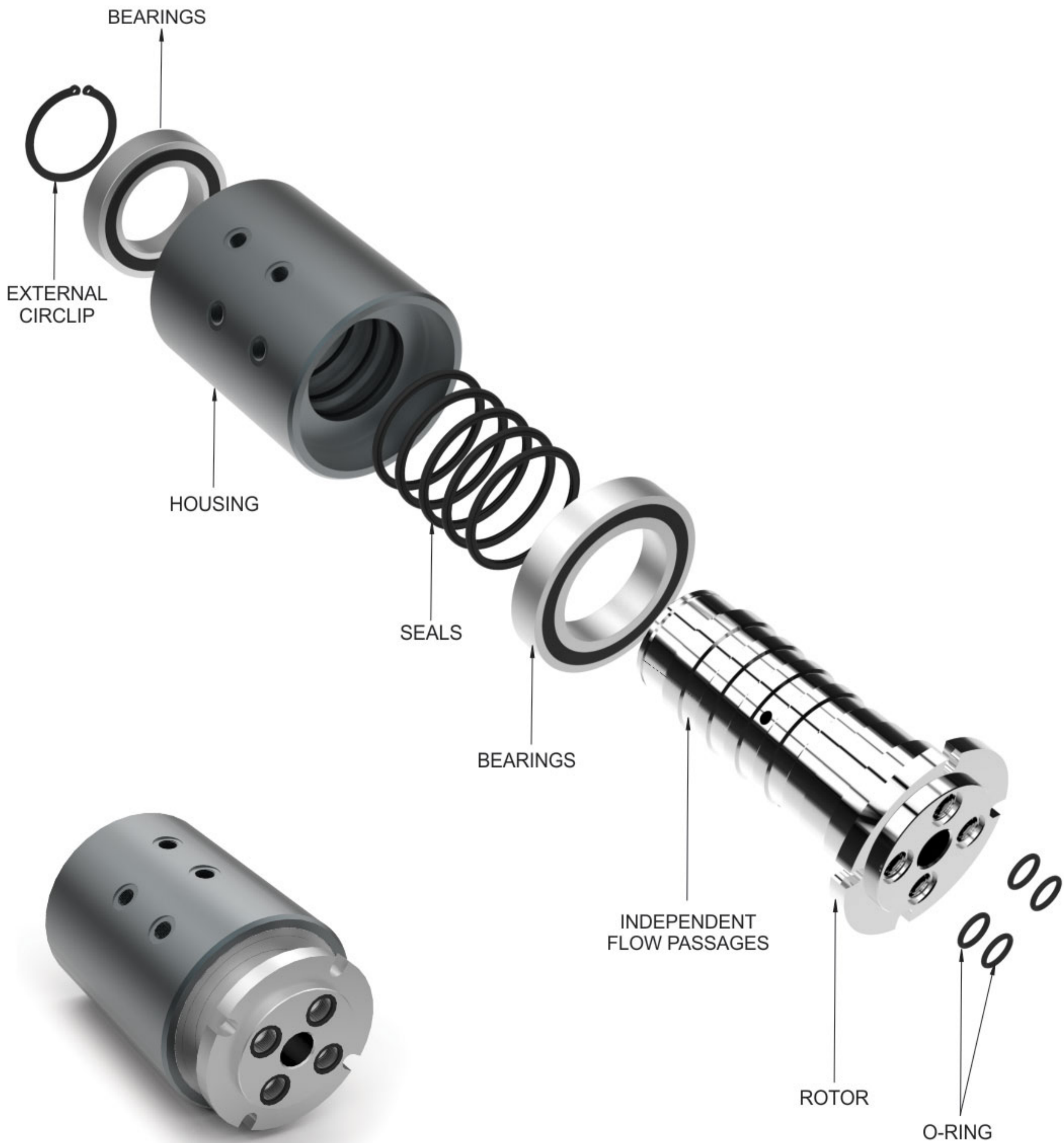
- GENERAL PURPOSE APPLICATIONS.
- HOUSING MATERIAL IN CARBON STEEL AND STAINLESS STEEL.
- SPECIALLY DESIGNED SEALS.
- NPT/BSPP/ BSPT / O-RING CONNECTION OPTIONS.
- CAN BE USED WITH MULTIPLE MEDIA.
- HIGHLY PRECISE AND QUALITY.
- EXTREMELY LONG SERVICE LIFE.
- **CUSTOMIZED OPTIONS AVAILABLE.**

**OPERATING DATA**

NO. OF PASSAGE / PORTS / CHANNELS	2	3	4	6	8
MEDIA	AIR, GASES , OIL , COOLANT , STEAM , WATER				
PASSAGE SIZE / PORT SIZE / CHANNEL SIZE	1/8", 1/4", 3/8", 1/2", 3/4", 1"				
HOUSING MATERIAL	CARBON STEEL, STAINLESS STEEL				
CONNECTION TYPE	NPT , BSP, O-RING				
MAX. WORKING PRESSURE	7700 PSI ( 530 BAR )				
MAX. TEMPERATURE	250° F				
MAX. SPEED	500 RPM				
MAX. VACUUM	28HG				
MOUNTING OPTIONS	TAPPED HOLES ON HOUSING / SLOTTED FLANGE OR TAPPED HOLES ON ROTOR				
PLATINGS AND COATINGS	BLACK OXIDE, CHROME				
SEAL TYPE	AS PER APPLICATION / FILLED PTFE ( STD )				

Subject to technical change without notice.

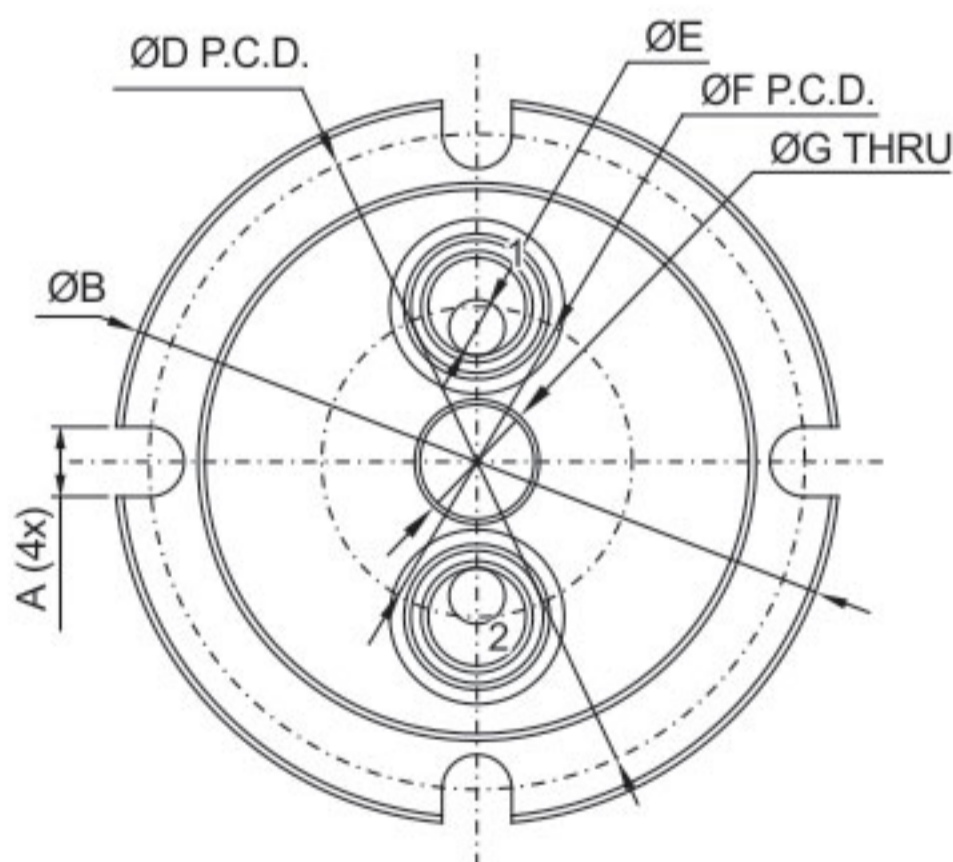
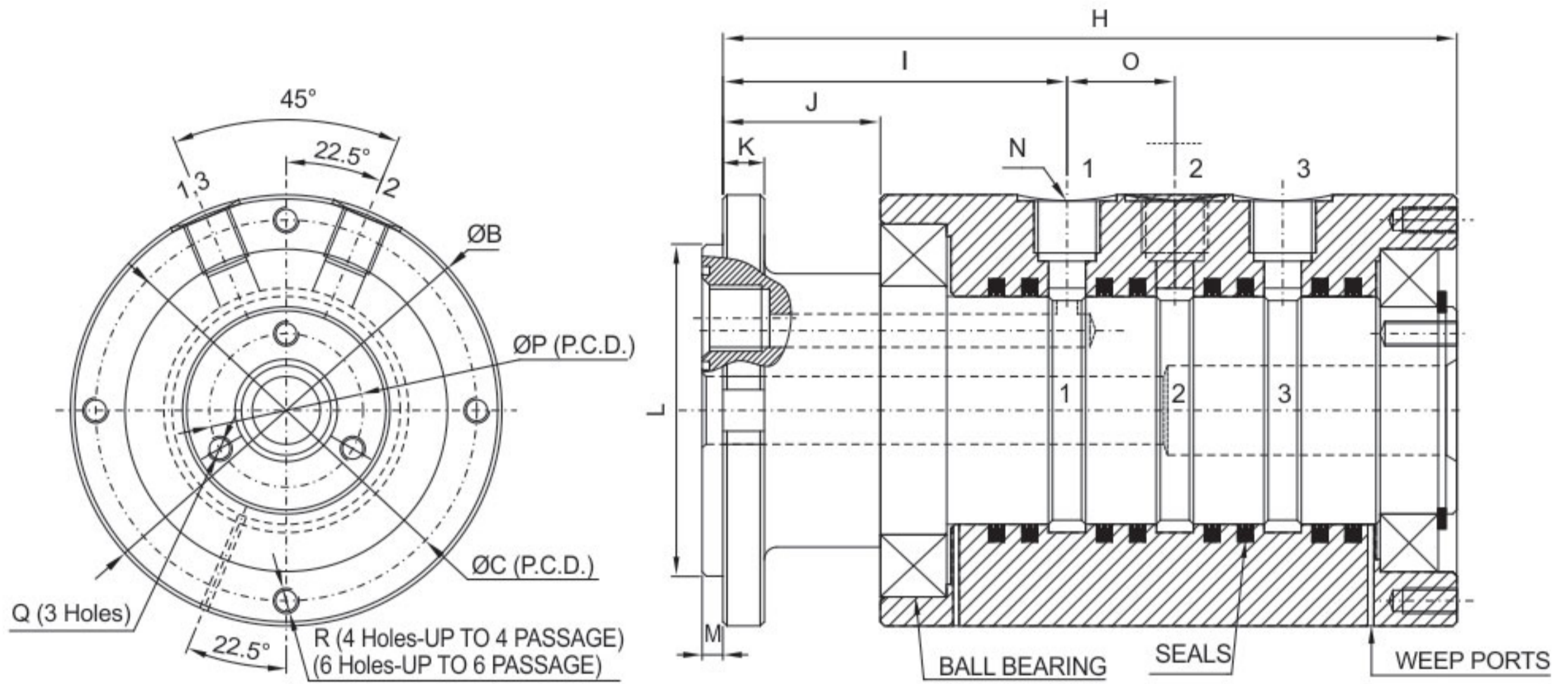
**EXPLODED VIEW OF  
FDGA TYPE MULTI PASSAGE ROTARY UNIONS**



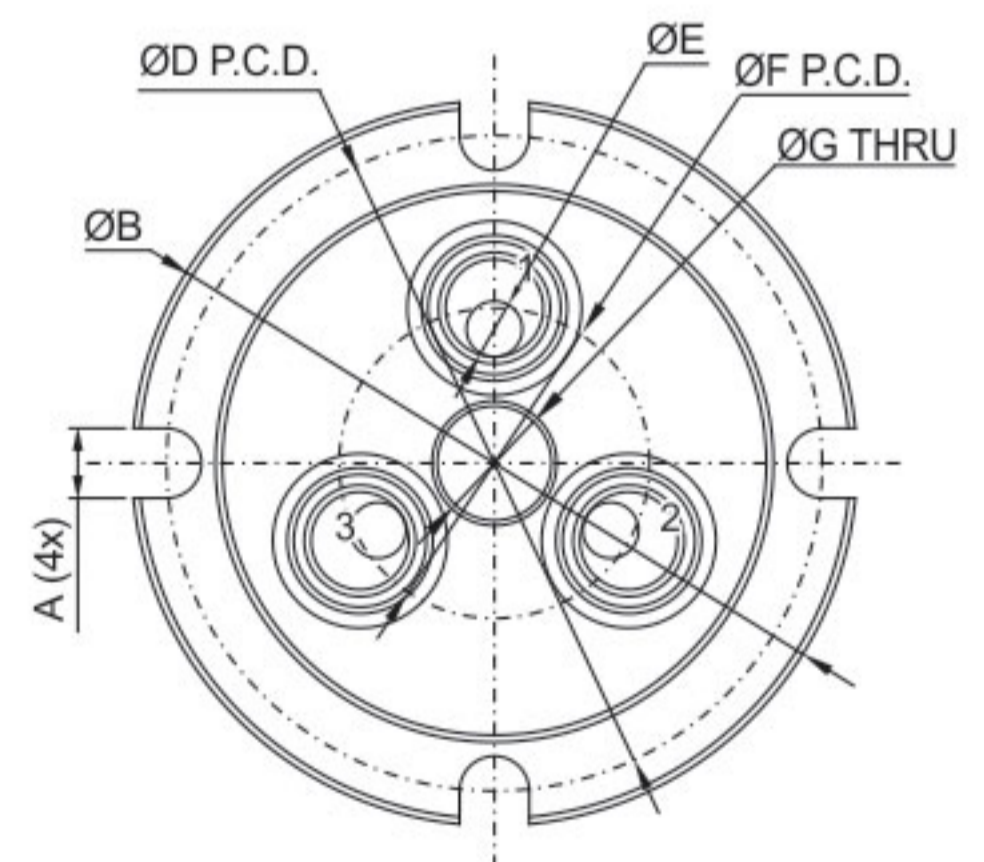
Subject to technical change without notice.

*Ideal for New as well as Easy Retrofit Installations...*

**FOR GENERAL PURPOSE  
FDGA 2 & 3 PASSAGE ROTARY UNIONS**



FDGA 2 PASSAGE



FDGA 3 PASSAGE

SUBJECT TO TECHNICAL CHANGE WITHOUT NOTICE.

**FOR GENERAL PURPOSE  
FDGA 2 & 3 PASSAGE ROTARY UNIONS**

**2 PASSAGE / PORT DIMENSION**

MODEL NO FOR C.S	MODEL NO FOR S.S	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
FDGA-CS-02-03N-W	FDGA-SS-02-03N-W	5.5	62	50.8	57.2	4	20.6	N/A	87	47	23	6	41.2	3	1/8" - 27 NPT	16	N/A	N/A	M5x0.8
FDGA-CS-02-03B-W	FDGA-SS-02-03B-W	5.5	62	50.8	57.2	4	20.6	N/A	87	47	23	6	41.2	3	1/8" - 28 BSP	16	N/A	N/A	M5x0.8
FDGA-CS-02-03N-T	FDGA-SS-02-03N-T	7	74	63.5	70	4	33.3	12.7	94	52	26	6	55.5	3	1/8" - 27 NPT	16	18.5	M3x0.5	M6x1
FDGA-CS-02-03B-T	FDGA-SS-02-03B-T	7	74	63.5	70	4	33.3	12.7	94	52	26	6	55.5	3	1/8" - 28 BSP	16	18.5	M3x0.5	M6x1
FDGA-CS-02-06N-W	FDGA-SS-02-06N-W	7	74	63.5	68.3	6	25.4	N/A	113	59	26	6	50.8	3	1/4" - 18 NPT	21	N/A	N/A	M6x1
FDGA-CS-02-06B-W	FDGA-SS-02-06B-W	7	74	63.5	68.3	6	25.4	N/A	113	59	26	6	50.8	3	1/4" - 19 BSP	21	N/A	N/A	M6x1
FDGA-CS-02-06N-T	FDGA-SS-02-06N-T	9	95	82.5	87.3	6	44.5	19	123	65	29	8	69.8	3	1/4" - 18 NPT	21	35	M5x0.8	M8x1.25
FDGA-CS-02-06B-T	FDGA-SS-02-06B-T	9	95	82.5	87.3	6	44.5	19	123	65	29	8	69.8	3	1/4" - 19 BSP	21	35	M5x0.8	M8x1.25
FDGA-CS-02-10N-W	FDGA-SS-02-10N-W	7	81	70	74.6	10	30.2	N/A	121	61	26	6	60.3	3	3/8" - 18 NPT	24	N/A	N/A	M6x1
FDGA-CS-02-10B-W	FDGA-SS-02-10B-W	7	81	70	74.6	10	30.2	N/A	121	61	26	6	60.3	3	3/8" - 19 BSP	24	N/A	N/A	M6x1
FDGA-CS-02-10N-T	FDGA-SS-02-10N-T	9	107	89	98.5	10	47.6	19	136	68	29	8	76.2	3	3/8" - 18 NPT	26	35	M5x0.8	M8x1.25
FDGA-CS-02-10B-T	FDGA-SS-02-10B-T	9	107	89	98.5	10	47.6	19	136	68	29	8	76.2	3	3/8" - 19 BSP	26	35	M5x0.8	M8x1.25
FDGA-CS-02-15N-W	FDGA-SS-02-15N-W	9	98	81	89	12.7	36.5	N/A	139	69	30	8	69.8	3	1/2" - 14 NPT	28	N/A	N/A	M8x1.25
FDGA-CS-02-15B-W	FDGA-SS-02-15B-W	9	98	81	89	12.7	36.5	N/A	139	69	30	8	69.8	3	1/2" - 14 BSP	28	N/A	N/A	M8x1.25
FDGA-CS-02-15N-T	FDGA-SS-02-15N-T	9	125	104.8	117.5	12.7	57.2	19	158	80	41	10	92	5	1/2" - 14 NPT	38	35	M5x0.8	M8x1.25
FDGA-CS-02-15B-T	FDGA-SS-02-15B-T	9	125	104.8	117.5	12.7	57.2	19	158	80	41	10	92	5	1/2" - 14 BSP	38	35	M5x0.8	M8x1.25
FDGA-CS-02-25N-T	FDGA-SS-02-25N-T	13.5	182	158.8	171.5	25.4	76.2	25.4	220	112	42	16	127	5	1" - 11.5 NPT	46	35	M5x0.8	M12x1.75
FDGA-CS-02-25B-T	FDGA-SS-02-25B-T	13.5	182	158.8	171.5	25.4	76.2	25.4	220	112	42	16	127	5	1" - 11 BSP	46	35	M5x0.8	M12x1.75

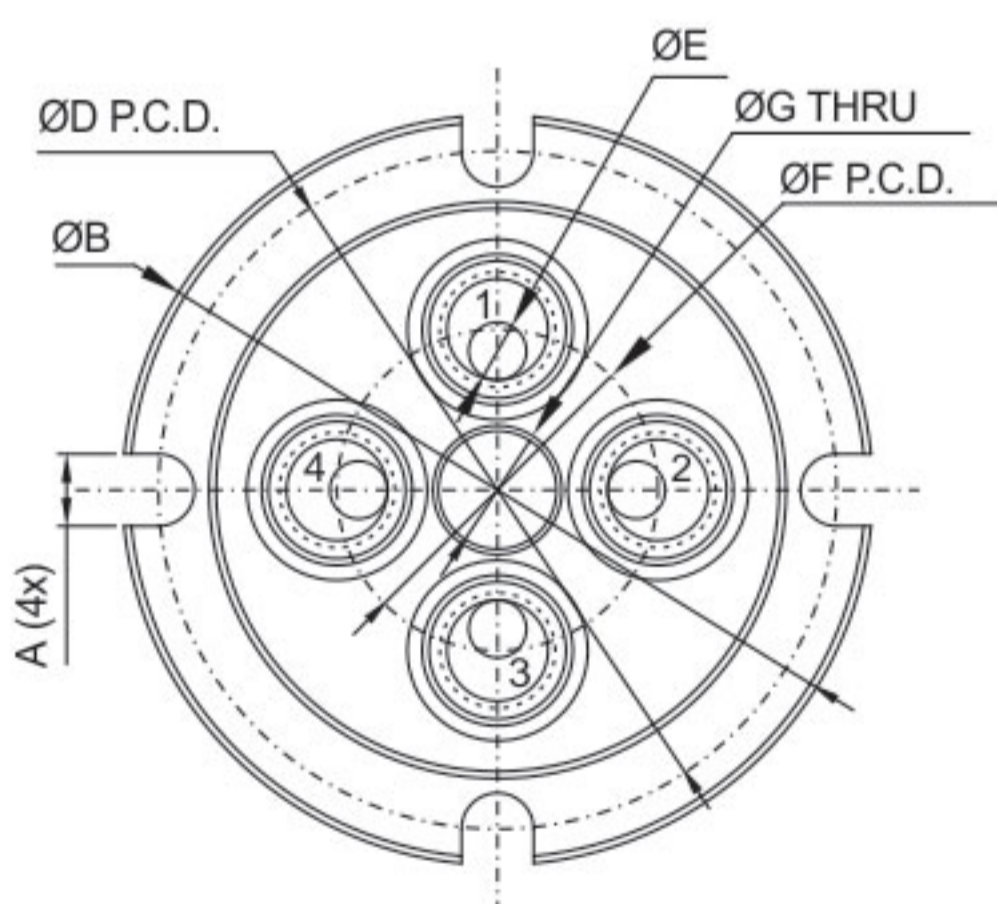
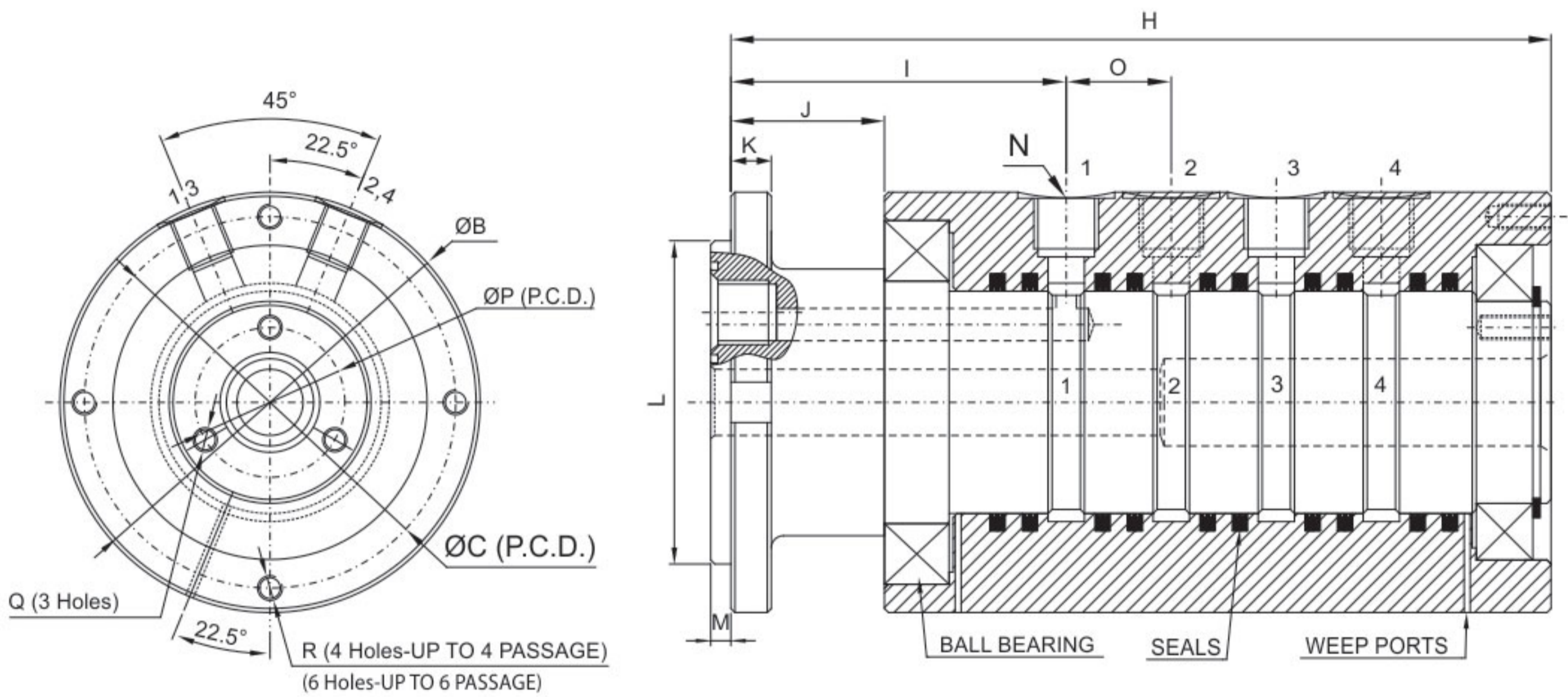
**3 PASSAGE / PORT DIMENSION**

MODEL NO FOR C.S	MODEL NO FOR S.S	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
FDGA-CS-03-03N-W	FDGA-SS-03-03N-W	7	68	54	63.5	4	25.4	N/A	107	51	26	6	47.6	3	1/8" - 27 NPT	16	N/A	N/A	M6x1
FDGA-CS-03-03B-W	FDGA-SS-03-03B-W	7	68	54	63.5	4	25.4	N/A	107	51	26	6	47.6	3	1/8" - 28 BSP	16	N/A	N/A	M6x1
FDGA-CS-03-03N-T	FDGA-SS-03-03N-T	7	75	60.3	70	4	33.3	12.7	108	52	26	6	55.5	3	1/8" - 27 NPT	16	18.5	M3x0.5	M6x1
FDGA-CS-03-03B-T	FDGA-SS-03-03B-T	7	75	60.3	70	4	33.3	12.7	108	52	26	6	55.5	3	1/8" - 28 BSP	16	18.5	M3x0.5	M6x1
FDGA-CS-03-06N-W	FDGA-SS-03-06N-W	7	81	69.8	74.6	6	31.8	N/A	136	59	26	6	60.3	3	1/4" - 18 NPT	22	N/A	N/A	M6x1
FDGA-CS-03-06B-W	FDGA-SS-03-06B-W	7	81	69.8	74.6	6	31.8	N/A	136	59	26	6	60.3	3	1/4" - 19 BSP	22	N/A	N/A	M6x1
FDGA-CS-03-06N-T	FDGA-SS-03-06N-T	9	95	82.5	87.3	6	44.5	19	144	64	29	8	69.8	3	1/4" - 18 NPT	22	35	M5x0.8	M8x1.25
FDGA-CS-03-06B-T	FDGA-SS-03-06B-T	9	95	82.5	87.3	6	44.5	19	144	64	29	8	69.8	3	1/4" - 19 BSP	22	35	M5x0.8	M8x1.25
FDGA-CS-03-10N-W	FDGA-SS-03-10N-W	9	98	82.5	90.5	10	34.9	N/A	155	67	31	8	66.9	3	3/8" - 18 NPT	26	N/A	N/A	M8x1.25
FDGA-CS-03-10B-W	FDGA-SS-03-10B-W	9	98	82.5	90.5	10	34.9	N/A	155	67	31	8	66.9	3	3/8" - 19 BSP	26	N/A	N/A	M8x1.25
FDGA-CS-03-10N-T	FDGA-SS-03-10N-T	9	106	92.1	98.4	10	47.6	19	163	68	29	8	76.2	3	3/8" - 18 NPT	28	35	M5x0.8	M8x1.25
FDGA-CS-03-10B-T	FDGA-SS-03-10B-T	9	106	92.1	98.4	10	47.6	19	163	68	29	8	76.2	3	3/8" - 19 BSP	28	35	M5x0.8	M8x1.25
FDGA-CS-03-15N-W	FDGA-SS-03-15N-W	9	108	92.1	100	12.7	44.5	N/A	181	76	36	10	79.4	5	1/2" - 14 NPT	32	N/A	N/A	M8x1.25
FDGA-CS-03-15B-W	FDGA-SS-03-15B-W	9	108	92.1	100	12.7	44.5	N/A	181	76	36	10	79.4	5	1/2" - 14 BSP	32	N/A	N/A	M8x1.25
FDGA-CS-03-15N-T	FDGA-SS-03-15N-T	9	125	104.8	117.5	12.7	57.2	19	190	82	43	11	92.1	5	1/2" - 14 NPT	34	35	M5x0.8	M8x1.25
FDGA-CS-03-15B-T	FDGA-SS-03-15B-T	9	125	104.8	117.5	12.7	57.2	19	190	82	43	11	92.1	5	1/2" - 14 BSP	34	35	M5x0.8	M8x1.25
FDGA-CS-03-20N-W	FDGA-SS-03-20N-W	11	132	114.3	122.2	19	54	N/A	212	87	48	11	95.2	5	3/4" - 14 NPT	43	N/A	N/A	M8x1.25
FDGA-CS-03-20B-W	FDGA-SS-03-20B-W	11	132	114.3	122.2	19	54	N/A	212	87	48	11	95.2	5	3/4" - 14 BSP	43	N/A	N/A	M8x1.25
FDGA-CS-03-25N-W	FDGA-SS-03-25N-W	14	176	146	165	25.4	54	N/A	270	116	58	16	117.5	5	1" - 11.5 NPT	46	N/A	N/A	M12x1.75
FDGA-CS-03-25B-W	FDGA-SS-03-25B-W	14	176	146	165	25.4	54	N/A	270	116	58	16	117.5	5	1" - 11 BSP	46	N/A	N/A	M12x1.75

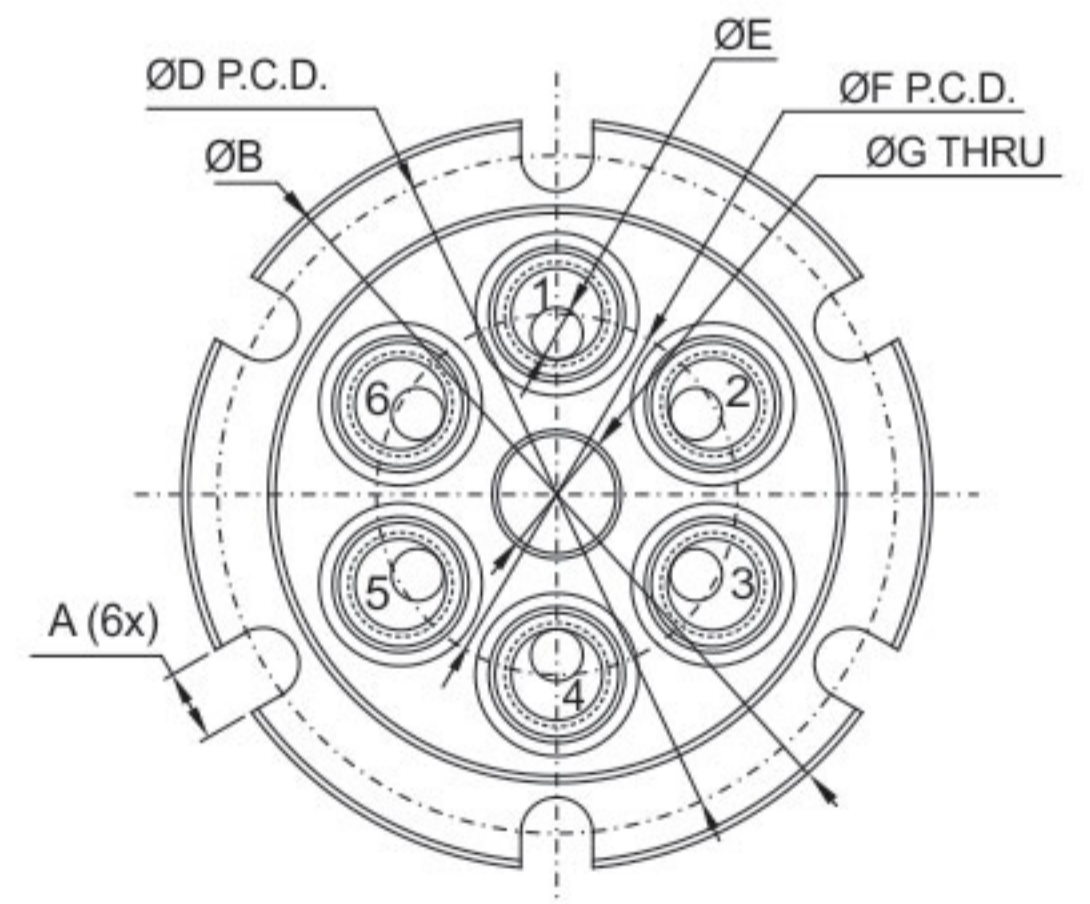
Subject to technical change without notice.

**FOR GENERAL PURPOSE  
FDGA 4 & 6 PASSAGE ROTARY UNIONS**

**FDG SERIES**



**FDGA 4 PASSAGE**



**FDGA 6 PASSAGE**

Subject to technical change without notice.

**FOR GENERAL PURPOSE  
FDGA 4 & 6 PASSAGE ROTARY UNIONS**

**4 PASSAGE / PORT DIMENSION**

MODEL NO FOR C.S	MODEL NO FOR S.S	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
FDGA-CS-04-03N-W	FDGA-SS-04-03N-W	7	68	54	63.5	4	27	N/A	121	52	26	6	47.6	3	1/8" - 27 NPT	14	N/A	N/A	M6x1
FDGA-CS-04-03B-W	FDGA-SS-04-03B-W	7	68	54	63.5	4	27	N/A	121	52	26	6	47.6	3	1/8" - 28 BSP	14	N/A	N/A	M6x1
FDGA-CS-04-03N-T	FDGA-SS-04-03N-T	7	75	60.3	69.9	4	33.3	12.7	122	52	26	6	55.5	3	1/8" - 27 NPT	14	18.5	M3x0.5	M6x1
FDGA-CS-04-03B-T	FDGA-SS-04-03B-T	7	75	60.3	69.9	4	33.3	12.7	122	52	26	6	55.5	3	1/8" - 28 BSP	14	18.5	M3x0.5	M6x1
FDGA-CS-04-06N-W	FDGA-SS-04-06N-W	7	81	69.8	75	6	34.9	N/A	157	59	26	6	60.3	3	1/4" - 18 NPT	22	N/A	N/A	M6x1
FDGA-CS-04-06B-W	FDGA-SS-04-06B-W	7	81	69.8	75	6	34.9	N/A	157	59	26	6	60.3	3	1/4" - 19 BSP	22	N/A	N/A	M6x1
FDGA-CS-04-06N-T	FDGA-SS-04-06N-T	9	95	82.5	87.3	6	44.5	19	162	64	29	8	69.8	3	1/4" - 18 NPT	22	35	M5x0.8	M8x1.25
FDGA-CS-04-06B-T	FDGA-SS-04-06B-T	9	95	82.5	87.3	6	44.5	19	162	64	29	8	69.8	3	1/4" - 19 BSP	22	35	M5x0.8	M8x1.25
FDGA-CS-04-10N-W	FDGA-SS-04-10N-W	9	98	82.5	90.5	10	38	N/A	179	68	30	8	66.7	3	3/8" - 18 NPT	24	N/A	N/A	M8x1.25
FDGA-CS-04-10B-W	FDGA-SS-04-10B-W	9	98	82.5	90.5	10	38	N/A	179	68	30	8	66.7	3	3/8" - 19 BSP	24	N/A	N/A	M8x1.25
FDGA-CS-04-10N-T	FDGA-SS-04-10N-T	9	106	92.1	98.4	10	47.6	19	189	72	29	8	76.2	3	3/8" - 18 NPT	26	35	M5x0.8	M8x1.25
FDGA-CS-04-10B-T	FDGA-SS-04-10B-T	9	106	92.1	98.4	10	47.6	19	189	72	29	8	76.2	3	3/8" - 19 BSP	26	35	M5x0.8	M8x1.25
FDGA-CS-04-15N-W	FDGA-SS-04-15N-W	9	108	92.1	100	12.7	44.5	N/A	211	78	35	10	79.4	5	1/2" - 14 NPT	30	N/A	N/A	M8x1.25
FDGA-CS-04-15B-W	FDGA-SS-04-15B-W	9	108	92.1	100	12.7	44.5	N/A	211	78	35	10	79.4	5	1/2" - 14 BSP	30	N/A	N/A	M8x1.25
FDGA-CS-04-15N-T	FDGA-SS-04-15N-T	9	125	104.8	117.5	12.7	57.2	19	220	82	43	11	92.1	5	1/2" - 14 NPT	34	35	M5x0.8	M8x1.25
FDGA-CS-04-15B-T	FDGA-SS-04-15B-T	9	125	104.8	117.5	12.7	57.2	19	220	82	43	11	92.1	5	1/2" - 14 BSP	34	35	M5x0.8	M8x1.25
FDGA-CS-04-20N-W	FDGA-SS-04-20N-W	11	132	114.3	122.2	19	54	N/A	249	88	39	11	95.2	5	3/4" - 14 NPT	37	N/A	N/A	M8x1.25
FDGA-CS-04-20B-W	FDGA-SS-04-20B-W	11	132	114.3	122.2	19	54	N/A	249	88	39	11	95.2	5	3/4" - 14 BSP	37	N/A	N/A	M8x1.25
FDGA-CS-04-25N-T	FDGA-SS-04-25N-T	14	182	152.4	165	25.4	76.2	25.4	270	102	58	16	117.5	5	1" - 11.5 NPT	43	35	M5x0.8	M12x1.75
FDGA-CS-04-25B-T	FDGA-SS-04-25B-T	14	182	152.4	165	25.4	76.2	25.4	270	102	58	16	117.5	5	1" - 11 BSP	43	35	M5x0.8	M12x1.75

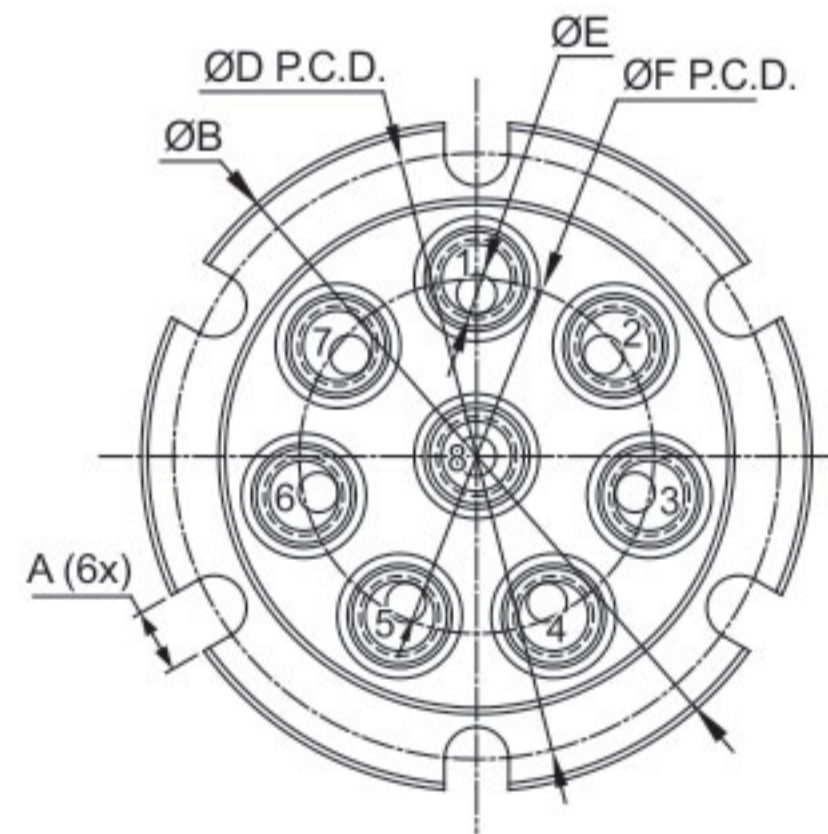
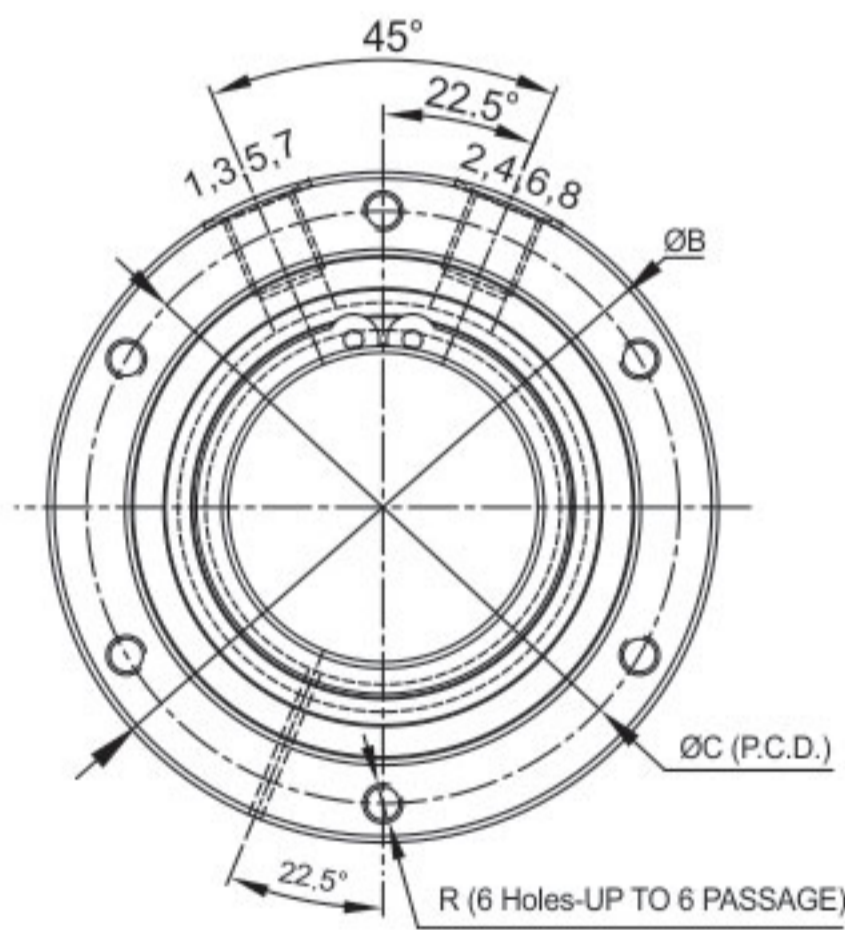
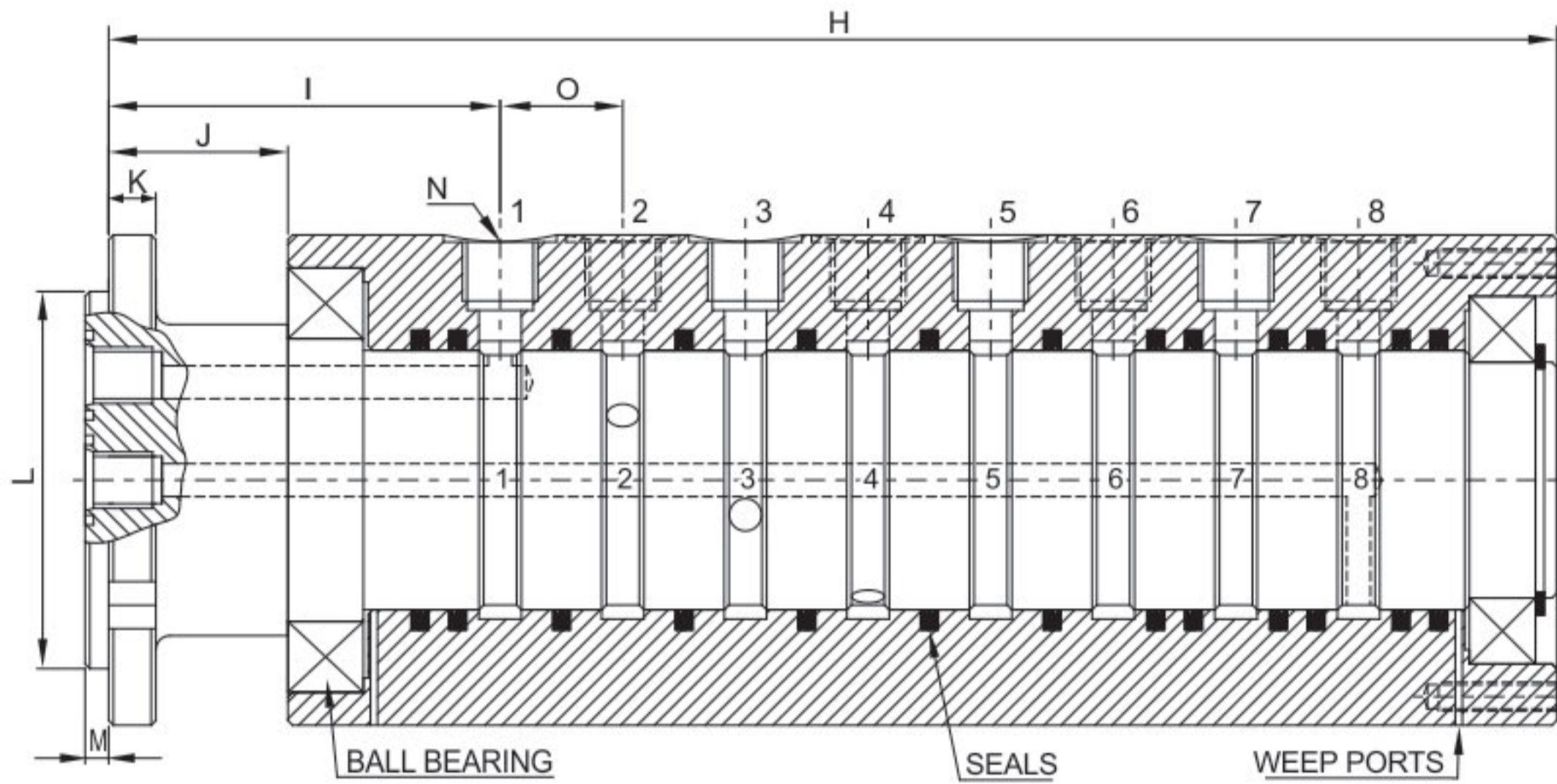
**6 PASSAGE / PORT DIMENSION**

MODEL NO FOR C.S	MODEL NO FOR S.S	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
FDGA-CS-06-03N-T	FDGA-SS-06-03N-T	7	81	66.7	76.2	4	39.7	12.7	166	63	31	8	60.3	3	1/8" - 27 NPT	14	18.5	M3x0.5	M6x1
FDGA-CS-06-03B-T	FDGA-SS-06-03B-T	7	81	66.7	76.2	4	39.7	12.7	166	63	31	8	60.3	3	1/8" - 28 BSP	14	18.5	M3x0.5	M6x1
FDGA-CS-06-06N-T	FDGA-SS-06-06N-T	9	102	85.7	92.1	6	47.6	19	209	72	34	8	73	3	1/4" - 18 NPT	21	35	M5x0.8	M8x1.25
FDGA-CS-06-06B-T	FDGA-SS-06-06B-T	9	102	85.7	92.1	6	47.6	19	209	72	34	8	73	3	1/4" - 19 BSP	21	35	M5x0.8	M8x1.25
FDGA-CS-06-10N-T	FDGA-SS-06-10N-T	9	108	92.1	100	10	54	19	229	73	34	8	82.5	3	3/8" - 18 NPT	24	35	M5x0.8	M8x1.25
FDGA-CS-06-10B-T	FDGA-SS-06-10B-T	9	108	92.1	100	10	54	19	229	73	34	8	82.5	3	3/8" - 19 BSP	24	35	M5x0.8	M8x1.25
FDGA-CS-06-15N-W	FDGA-SS-06-15N-W	9	125	104.8	117.5	12.7	61.9	N/A	263	83	43	11	96.8	5	1/2" - 14 NPT	28	N/A	N/A	M8x1.25
FDGA-CS-06-15B-W	FDGA-SS-06-15B-W	9	125	104.8	117.5	12.7	61.9	N/A	263	83	43	11	96.8	5	1/2" - 14 BSP	28	N/A	N/A	M8x1.25
FDGA-CS-06-20N-T	FDGA-SS-06-20N-T	11	164	142.9	152.4	19	79.4	19	338	92	45	13	120.6	5	3/4" - 14 NPT	40	35	M5x0.8	M10x1.5
FDGA-CS-06-20B-T	FDGA-SS-06-20B-T	11	164	142.9	152.4	19	79.4	19	338	92	45	13	120.6	5	3/4" - 14 BSP	40	35	M5x0.8	M10x1.5

Subject to technical change without notice.

*Ideal for New as well as Easy Retrofit Installations...*

**FOR GENERAL PURPOSE  
FDGA 8 PASSAGE ROTARY UNIONS**



**8 PASSAGE / PORT DIMENSION**

MODEL NO FOR C.S	MODEL NO FOR S.S	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
FDGA-CS-08-03N-W	FDGA-SS-08-03N-W	7	87	76.2	82.5	4	46	N/A	192	60	30	8	66.7	3	1/8" - 27 NPT	14	N/A	N/A	M6x1
FDGA-CS-08-03B-W	FDGA-SS-08-03B-W	7	87	76.2	82.5	4	46	N/A	192	60	30	8	66.7	3	1/8" - 28 BSP	14	N/A	N/A	M6x1
FDGA-CS-08-06N-W	FDGA-SS-08-06N-W	9	108	92.1	100	6	54	N/A	246	72	34	8	79.4	3	1/4" - 18 NPT	20	N/A	N/A	M8x1.25
FDGA-CS-08-06B-W	FDGA-SS-08-06B-W	9	108	92.1	100	6	54	N/A	246	72	34	8	79.4	3	1/4" - 19 BSP	20	N/A	N/A	M8x1.25
FDGA-CS-08-10N-W	FDGA-SS-08-10N-W	9	125	109.5	117.5	10	63.5	N/A	280	79	42	10	92.1	5	3/8" - 18 NPT	24	N/A	N/A	M8x1.25
FDGA-CS-08-10B-W	FDGA-SS-08-10B-W	9	125	109.5	117.5	10	63.5	N/A	280	79	42	10	92.1	5	3/8" - 19 BSP	24	N/A	N/A	M8x1.25
FDGA-CS-08-15N-W	FDGA-SS-08-15N-W	9	142	127	133.3	12.7	73	N/A	318	85	44	11	107.9	5	1/2" - 14 NPT	28	N/A	N/A	M8x1.25
FDGA-CS-08-15B-W	FDGA-SS-08-15B-W	9	142	127	133.3	12.7	73	N/A	318	85	44	11	107.9	5	1/2" - 14 BSP	28	N/A	N/A	M8x1.25

Subject to technical change without notice.

**FOR GENERAL PURPOSE  
FDGA 10 & 12 PASSAGE ROTARY UNIONS**



**DESIGN FEATURES**

- GENERAL PURPOSE APPLICATIONS.
- HOUSING MATERIAL IN CARBON STEEL AND STAINLESS STEEL.
- SPECIALLY DESIGNED SEALS.
- NPT / BSPP / BSPT / O-RING CONNECTION OPTIONS.
- CAN BE USED WITH MULTIPLE MEDIA.
- HIGHLY PRECISE AND QUALITY.
- EXTREMELY LONG SERVICE LIFE.
- **CUSTOMIZED OPTIONS AVAILABLE.**

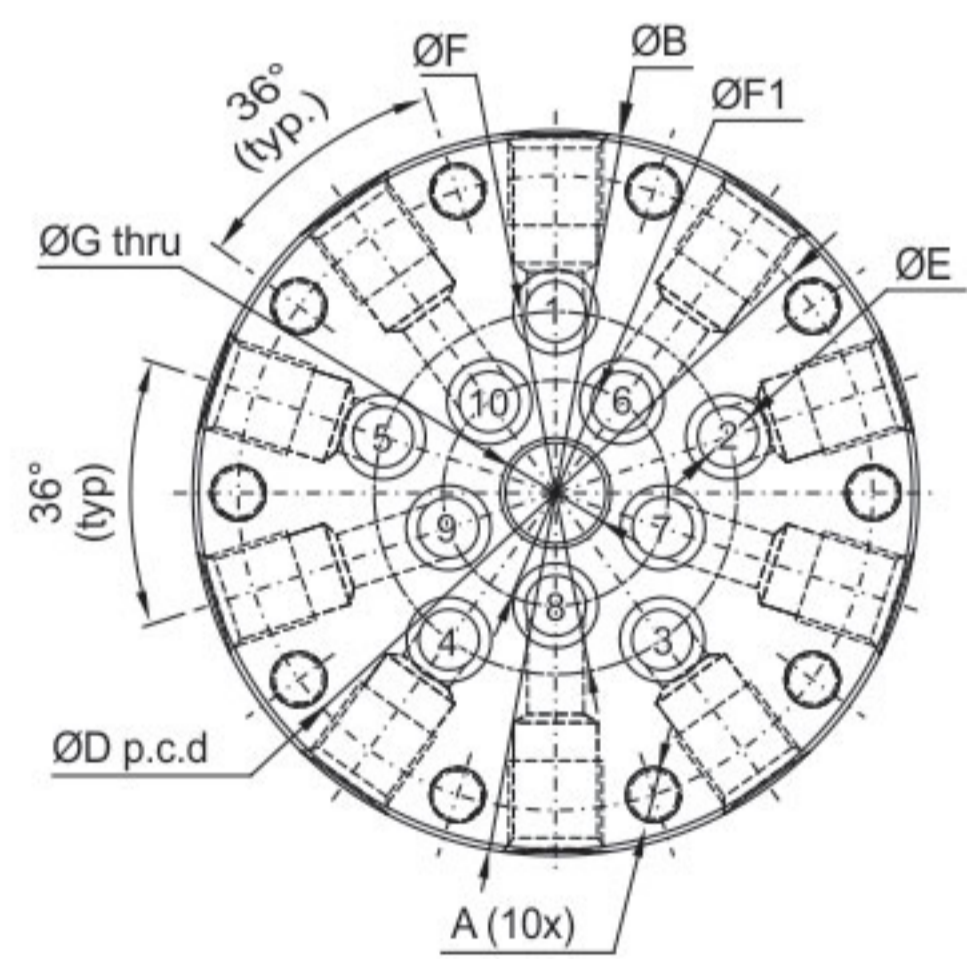
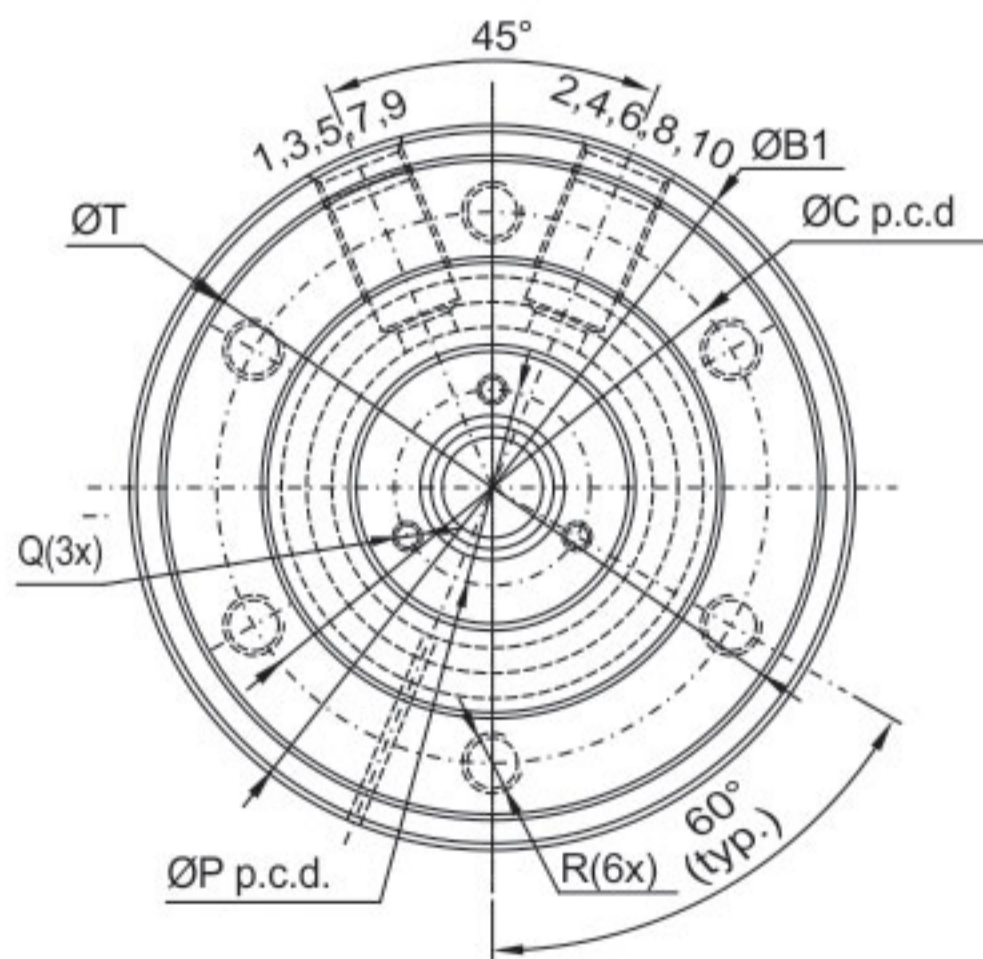
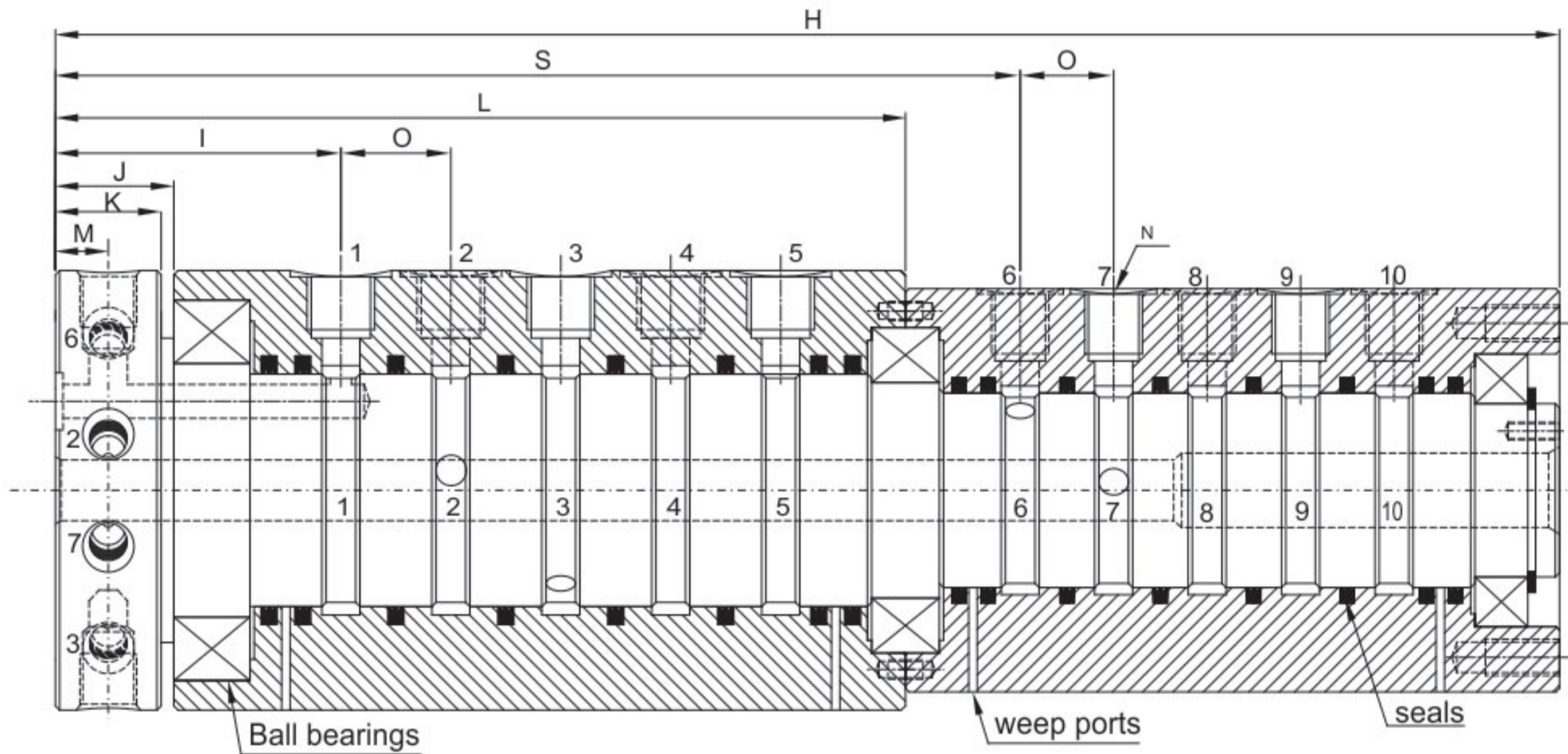
**OPERATING DATA**

NO. OF PASSAGE / PORTS / CHANNELS	10	12
MEDIA	AIR, GASES , OIL , COOLANT , STEAM , WATER	
PASSAGE SIZE / PORT SIZE / CHANNEL SIZE	1/4", & 3/8"	
HOUSING MATERIAL	CARBON STEEL, STAINLESS STEEL	
CONNECTION TYPE	NPT , BSP, O-RING	
MAX. WORKING PRESSURE	7700 PSI ( 530 BAR )	
MAX. TEMPERATURE	250° F	
MAX. SPEED	500 RPM	
MAX. VACUUM	28HG	
MOUNTING OPTIONS	TAPPED HOLES ON HOUSING / SLOTTED FLANGE OR TAPPED HOLES ON ROTOR	
PLATINGS AND COATINGS	BLACK OXIDE, CHROME	
SEAL TYPE	AS PER APPLICATION / FILLED PTFE ( STD )	

Subject to technical change without notice.

*Ideal for New as well as Easy Retrofit Installations...*

**FOR GENERAL PURPOSE  
FDGA 10 PASSAGE ROTARY UNIONS**

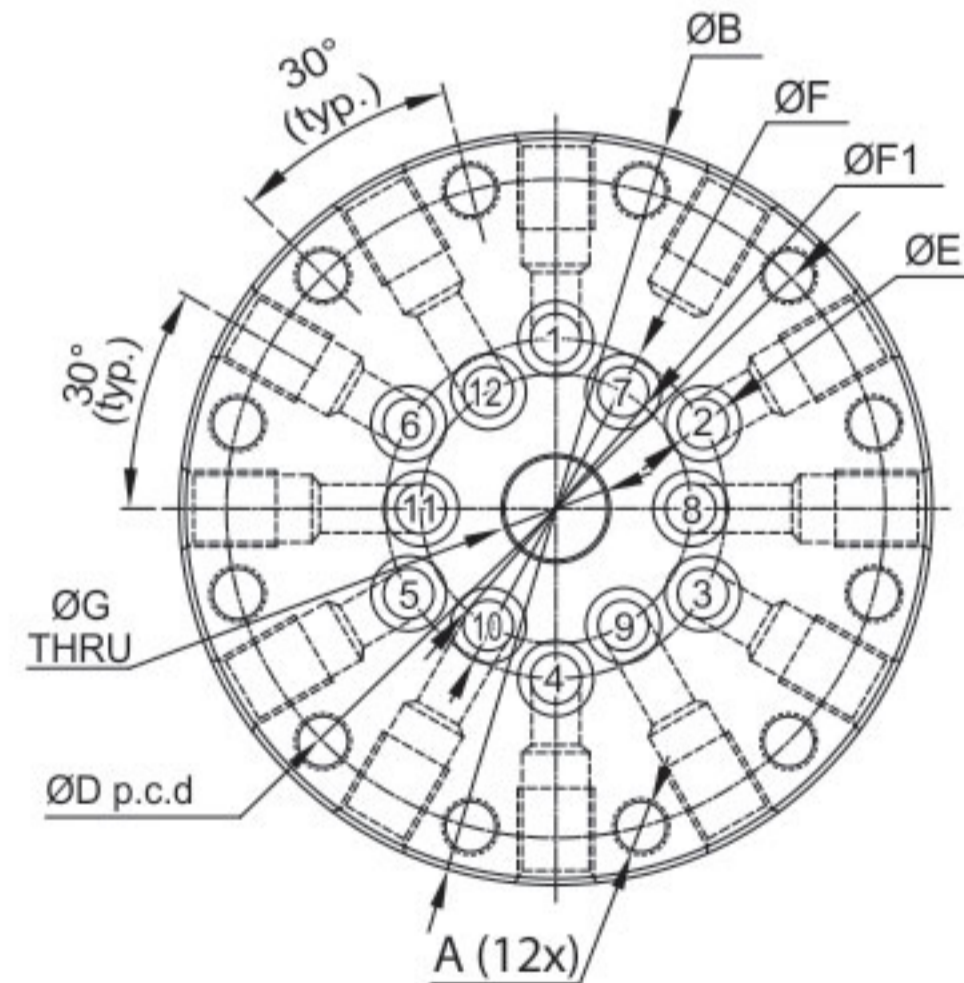
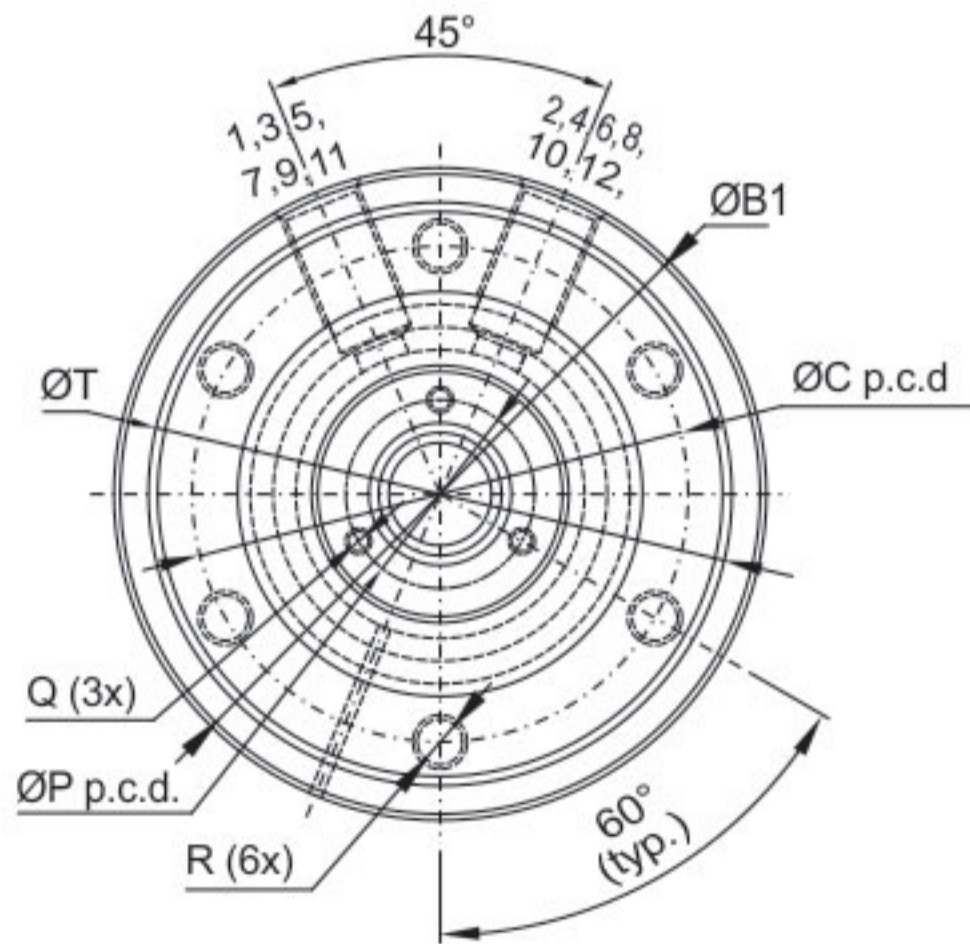
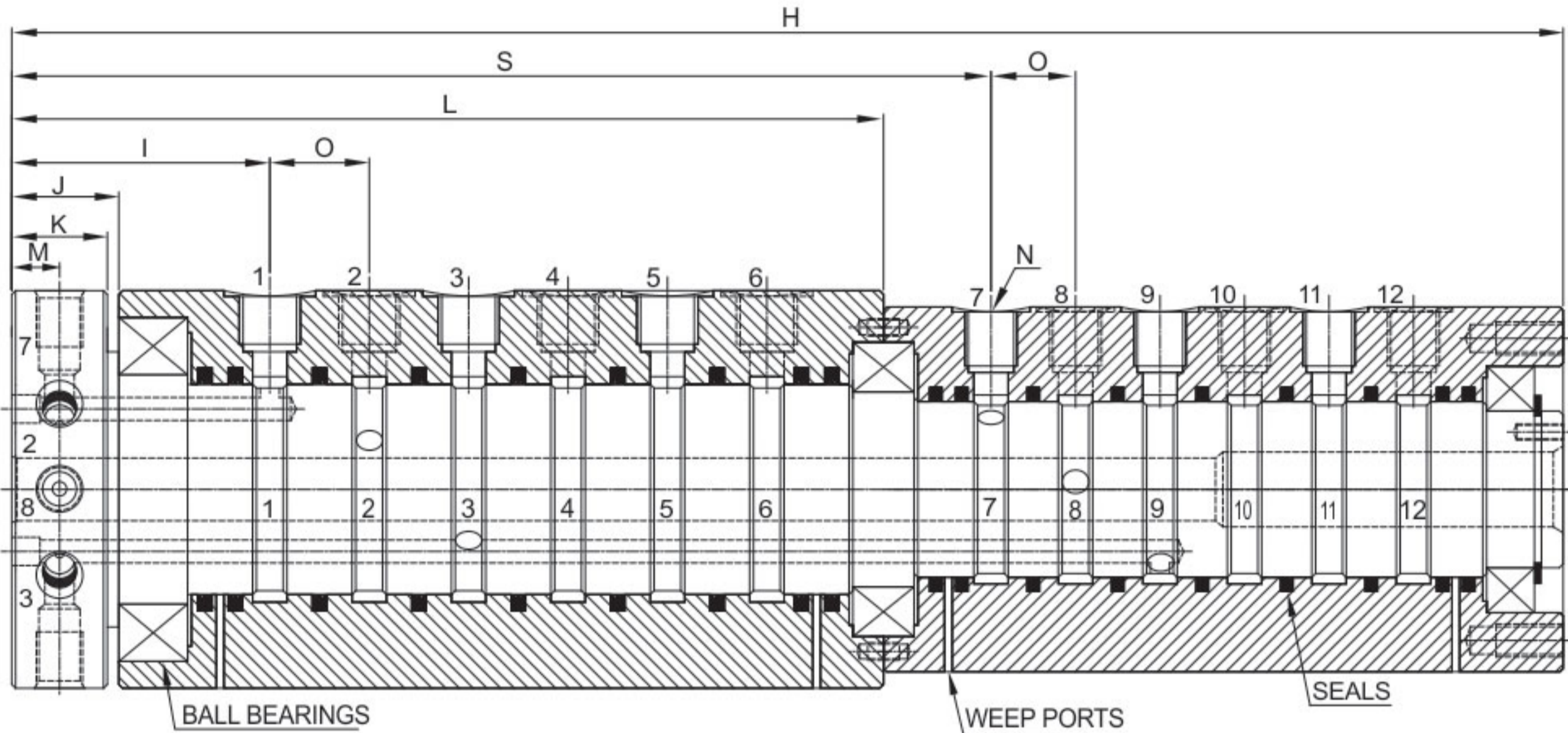


**10 PASSAGE / PORT DIMENSION**

MODEL NO FOR C.S	MODEL NO FOR S.S	A	B	B1	C	D	E	F	F1	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
FDGA-CS-10-06N-T	FDGA-SS-10-06N-T	M8 x 1.25	102	102	82.5	89	6	58	48	19	304	67	28	25	171	12.5	1/4"-18 NPT	18	35	M5 x 0.8	M6 x 1.0	196	94
FDGA-CS-10-06B-T	FDGA-SS-10-06B-T	M8 x 1.25	102	102	82.5	89	6	58	48	19	304	67	28	25	171	12.5	1/4"-19 BSP	18	35	M5 x 0.8	M6 x 1.0	196	94
FDGA-CS-10-10N-T	FDGA-SS-10-10N-T	M8x1.25	125	119	82.5	114	10	48	38	19	348	73	35	32	191	16	3/8" - 18 NPT	22	35	M5 x 0.8	M8x1.25	219	100
FDGA-CS-10-10B-T	FDGA-SS-10-10B-T	M8x1.25	125	119	82.5	114	10	48	38	19	348	73	35	32	191	16	3/8" - 19 BSP	22	35	M5 x 0.8	M8x1.25	219	100

Subject to technical change without notice.

**FOR GENERAL PURPOSE  
FDGA 12 PASSAGE ROTARY UNIONS**



**12 PASSAGE / PORT DIMENSION**

MODEL NO FOR C.S	MODEL NO FOR S.S	A	B	B1	C	D	E	F	F1	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
FDGA-CS-12-06N-T	FDGA-SS-12-06N-T	M8 x 1.25	112.5	112.5	82.5	102	6	58	48	19	341	67	28	25	171	12.5	1/4"-18 NPT	18	34.9	M5 x 0.8	M6 x 1.0	214	94
FDGA-CS-12-06B-T	FDGA-SS-12-06B-T	M8 x 1.25	112.5	112.5	82.5	102	6	58	48	19	341	67	28	25	171	12.5	1/4"-19 BSP	18	34.9	M5 x 0.8	M6 x 1.0	214	94
FDGA-CS-12-10N-T	FDGA-SS-12-10N-T	M8x1.25	125	119	82.5	114	10	48	38	19	392	73	35	32	214	16	3/8" - 18 NPT	22	34.9	M5 x 0.8	M8x1.25	241	100
FDGA-CS-12-10B-T	FDGA-SS-12-10B-T	M8x1.25	125	119	82.5	114	10	48	38	19	392	73	35	32	214	16	3/8" - 19 BSP	22	34.9	M5 x 0.8	M8x1.25	241	100

Subject to technical change without notice.

# FDL SERIES

( FOR LOW TORQUE SERVICE )

MULTI PASSAGE / MULTI PORT / MULTI CHANNEL  
ROTARY UNIONS / ROTARY JOINTS / ROTARY DISTRIBUTORS



FDL SERIES

'FOURWENTS' ROTARY UNIONS ARE ENGINEERED TO ENDURE A WIDE RANGE OF APPLICATIONS FOR A VARIETY OF ENVIRONMENTS & WORKING CONDITIONS.

'FOURWENTS' ROTARY UNIONS OF MULTI PASSAGES / PORTS ARE MOST SUITABLE TO HANDLE DIFFERENT TYPES OF MEDIA LIKE: AIR, COOLANT, WATER, GASES, STEAM & OILS SIMULTANEOUSLY.

**TELL US ABOUT YOUR REQUIREMENTS / APPLICATIONS, SO THAT 'FOURWENTS' CAN MAKE PROPER RECOMMENDATIONS.**

- NO. OF PASSAGES / PORTS / CHANNELS REQUIRED
- MEDIA TO BE HANDLE.
- WORKING PRESSURE.
- WORKING TEMPERATURE.
- MAX. SPEED ( RPM )
- PASSAGE / PORT / CHANNEL SIZE REQUIRED
- CONNECTION TYPE: NPT , BSP, BSPT, 'O' RINGS ETC.
- MOUNTING DIMENSIONS IF SPECIFIC.

Subject to technical change without notice.

**FOR LOW TORQUE SERVICE  
FDLC 2,4 & 8 PASSAGE ROTARY UNIONS**



**DESIGN FEATURES**

- SEALS DESIGNED FOR LOW TORQUE SERVICE.
- LIGHTWEIGHT CONSTRUCTION, AVAILABLE IN ALUMINUM ALLOY BODY MATERIAL.
- CORROSION RESISTANT.
- COMPACT DESIGN.
- LOW HEAT GENERATION.
- NPT / BSP / BSPT / 'O'RING CONNECTION OPTIONS.
- COST-EFFECTIVE MODEL.
- INCREASED SEAL LIFE PERFORMANCE.
- HIGHLY PRECISE & QUALITY.
- EXTREMELY LONG SERVICE LIFE.
- **CUSTOMIZED OPTIONS AVAILABLE.**

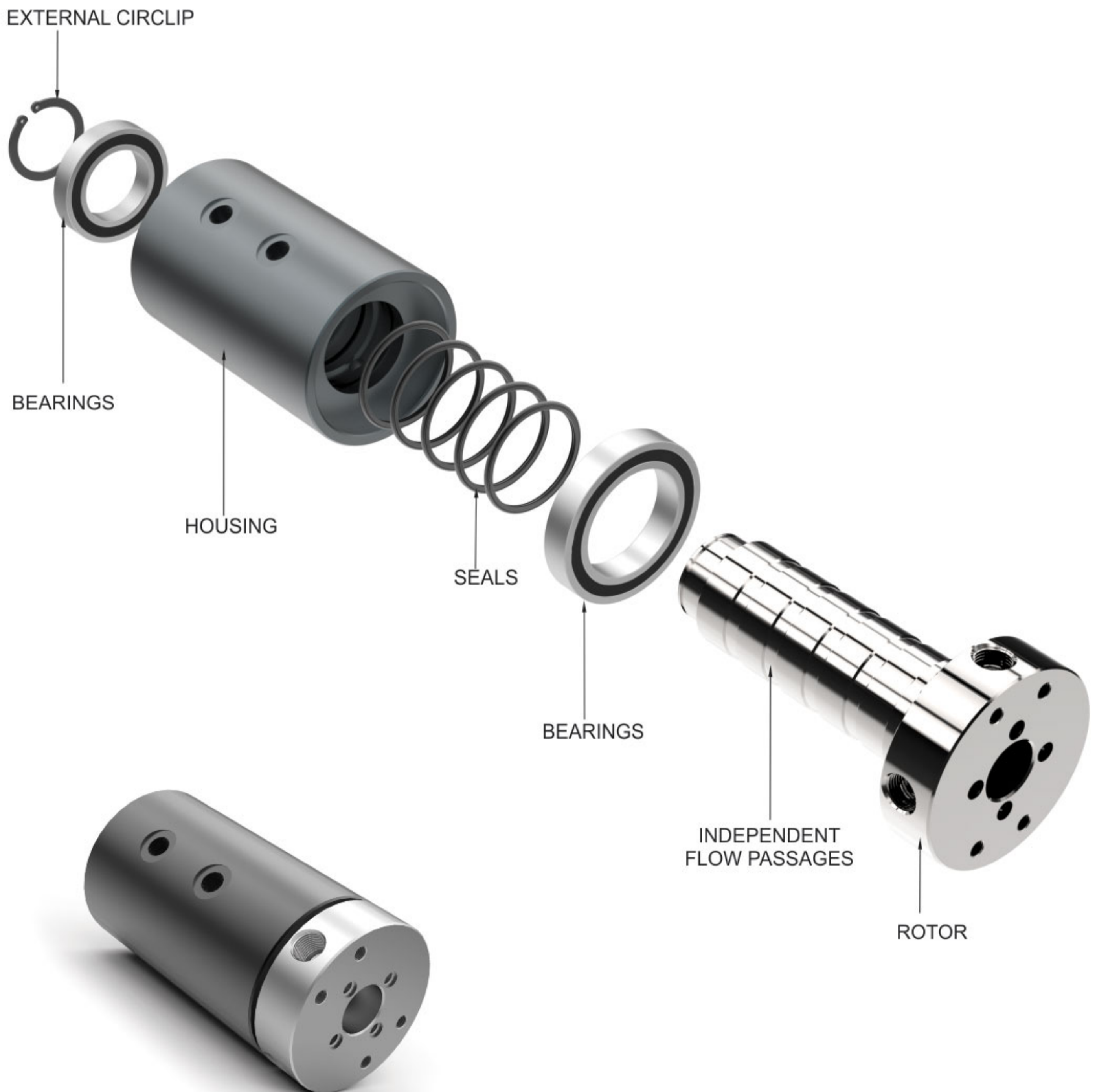
**OPERATING DATA**

NO. OF PASSAGE / PORTS / CHANNELS	2	4	8
MEDIA	COOLANT, AIR, GASES, OIL, STEAM, WATER		
PASSAGE SIZE / PORT SIZE / CHANNEL SIZE	1/8" & 3/8"		
HOUSING MATERIAL	ALUMINUM		
CONNECTION TYPE	NPT, BSP, O-RING FACE SEAL		
MAX. WORKING PRESSURE	600 PSI (40 BAR)		
MAX. TEMPERATURE	250° F		
MAX. SPEED	500 RPM		
MAX. VACUUM	28 HG		
MOUNTING OPTIONS	TAPPED HOLES ON HOUSING / TAPPED HOLES ON ROTOR		
PLATINGS AND COATINGS	SHAFT: E-NICKEL & HOUSING: BLUE, BLACK, GREY ANODIZE		
SEAL TYPE	3/8" (9.5MM) AS PER APPLICATION / FILLED PTFE (STD)		

Subject to technical change without notice.

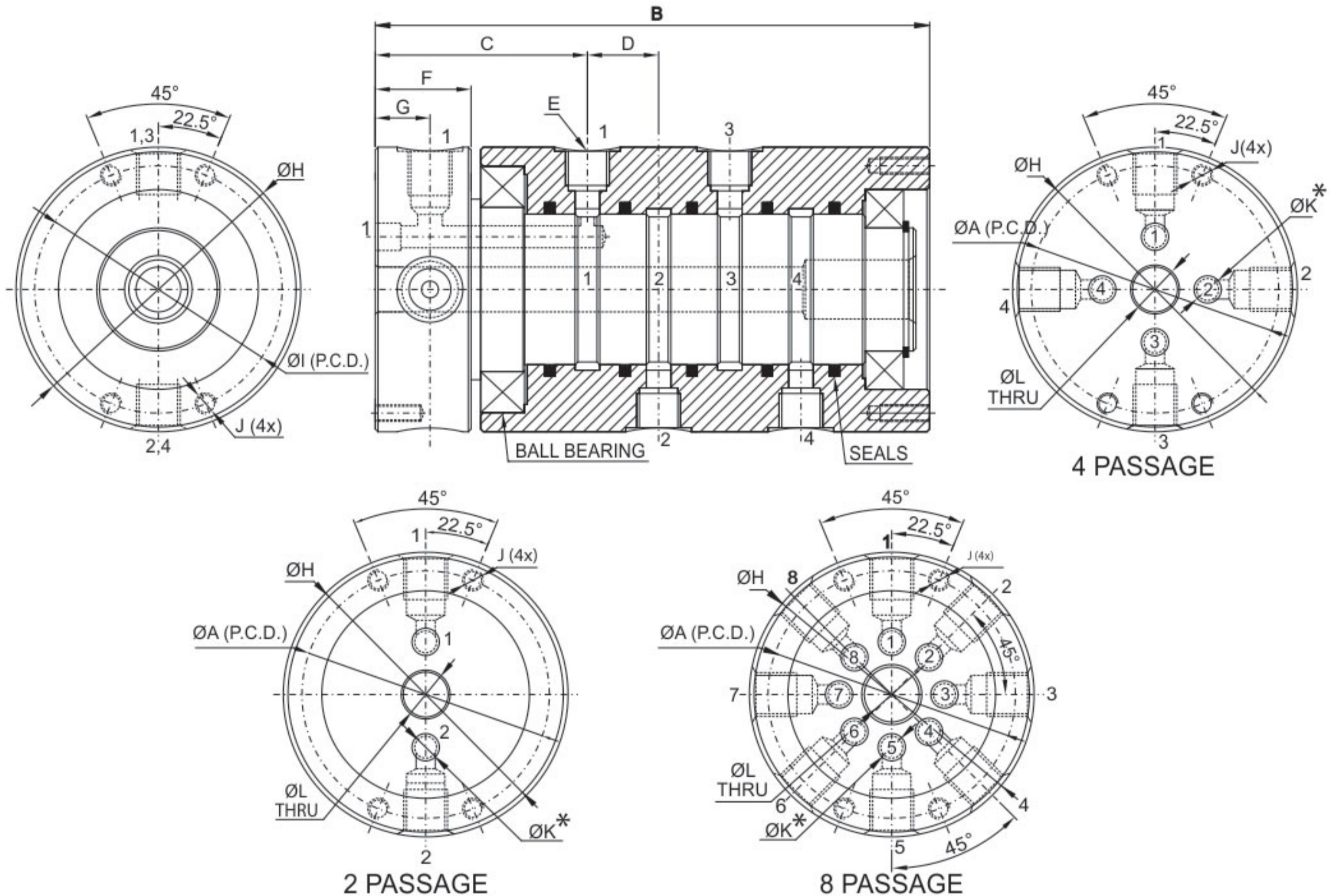
*Ideal for New as well as Easy Retrofit Installations...*

**EXPLODED VIEW OF  
FDLC TYPE MULTI PASSAGE ROTARY UNIONS**



Subject to technical change without notice.

**FOR LOW TORQUE SERVICE  
FDLC 2, 4 & 8 PASSAGE ROTARY UNIONS**



\*PORTING SIZE (PERMANENTLY PLUGGED.)

**2 PASSAGE / PORT DIMENSION**

MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L
FDLC-AL-02-03N	44.4	68	37	9	1/8" - 27 NPT	19	11	55	44.5	M5 x 0.8	4	9.5
FDLC-AL-02-03B	44.4	68	37	9	1/8" - 28 BSP	19	11	55	44.5	M5 x 0.8	4	9.5
FDLC-AL-02-10N	76.2	119	63	21	3/8" - 18 NPT	32	19	87	76	M6 x 1	9.5	9.5
FDLC-AL-02-10B	76.2	119	63	21	3/8" - 19 BSP	32	19	87	76	M6 x 1	9.5	9.5

**4 PASSAGE / PORT DIMENSION**

MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L
FDLC-AL-04-03N	44.4	86	37	9	1/8" - 27 NPT	19	11	55	44.5	M5 x 0.8	4	9.5
FDLC-AL-04-03B	44.4	86	37	9	1/8" - 28 BSP	19	11	55	44.5	M5 x 0.8	4	9.5
FDLC-AL-04-10N	76.2	161	63	21	3/8" - 18 NPT	32	19	87	76	M6 x 1	9.5	9.5
FDLC-AL-04-10B	76.2	161	63	21	3/8" - 19 BSP	32	19	87	76	M6 x 1	9.5	9.5

**8 PASSAGE / PORT DIMENSION**

MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L
FDLC-AL-08-03N	44.4	122	37	9	1/8" - 27 NPT	19	11	55	44.5	M5 x 0.8	4	9.5
FDLC-AL-08-03B	44.4	122	37	9	1/8" - 28 BSP	19	11	55	44.5	M5 x 0.8	4	9.5
FDLC-AL-08-10N	76.2	246	63	21	3/8" - 18 NPT	32	19	87	76	M6 x 1	9.5	9.5
FDLC-AL-08-10B	76.2	246	63	21	3/8" - 19 BSP	32	19	87	76	M6 x 1	9.5	9.5

Subject to technical change without notice.

**FOR LOW TORQUE SERVICE  
FDLC 12 PASSAGE ROTARY UNIONS**



**TYPE : FDLC**  
SIZES : 1/8" & 3/8"

**DESIGN FEATURES**

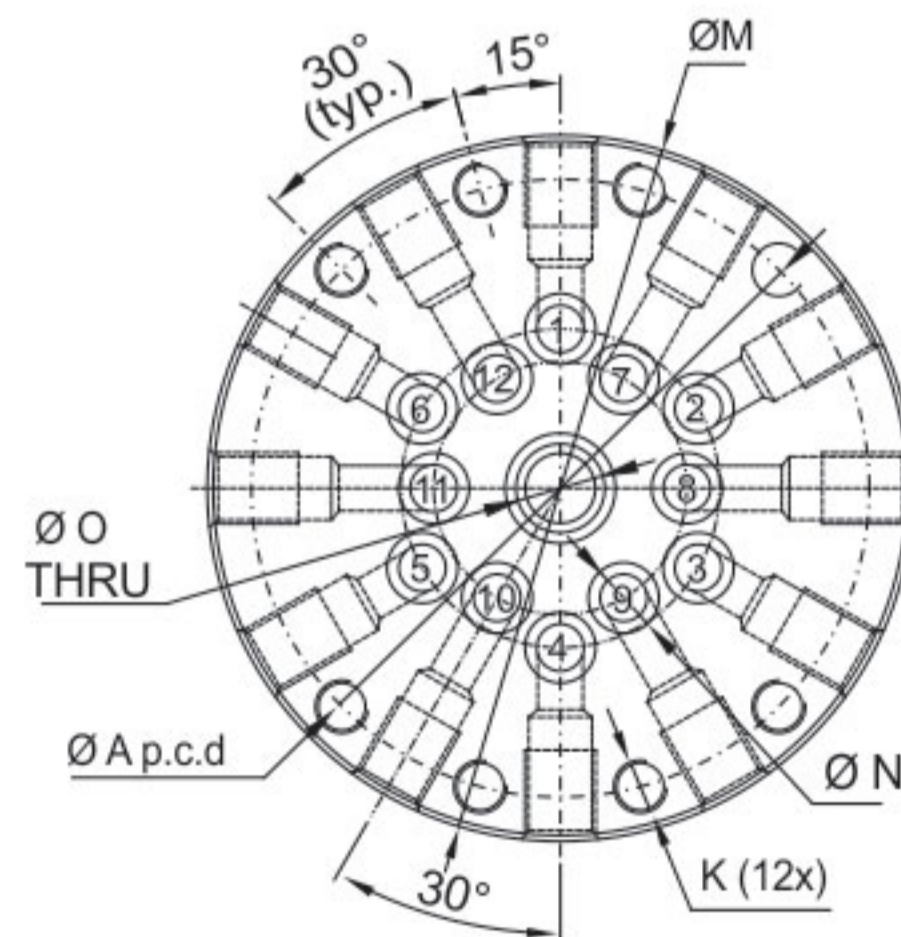
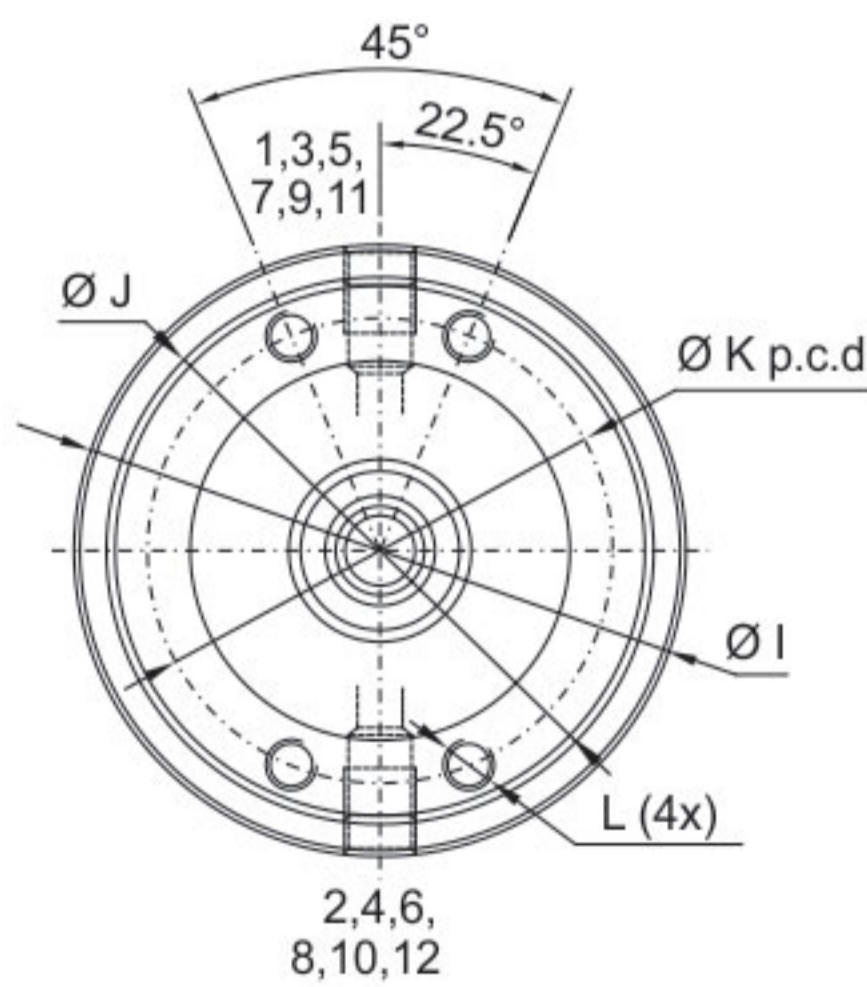
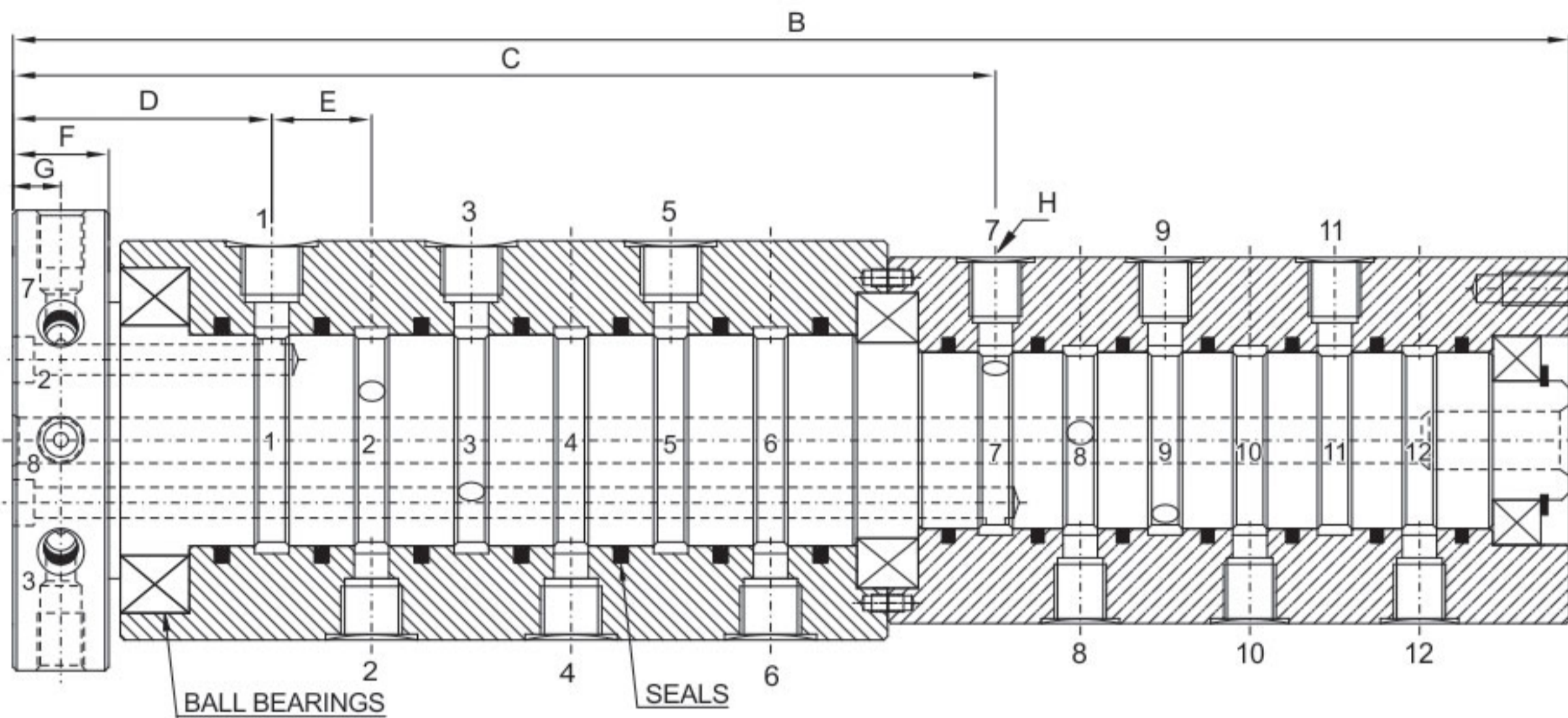
- SEALS DESIGNED FOR LOW TORQUE SERVICE.
- LIGHTWEIGHT CONSTRUCTION, AVAILABLE IN ALUMINUM ALLOY BODY MATERIAL.
- CORROSION RESISTANT.
- COMPACT DESIGN.
- LOW HEAT GENERATION.
- NPT / BSP / BSPT / 'O'RING CONNECTION OPTIONS.
- COST-EFFECTIVE MODEL.
- INCREASED SEAL LIFE PERFORMANCE.
- HIGHLY PRECISE & QUALITY.
- EXTREMELY LONG SERVICE LIFE.
- **CUSTOMIZED OPTIONS AVAILABLE.**

**OPERATING DATA**

NO. OF PASSAGE / PORTS / CHANNELS	12
MEDIA	COOLANT, AIR, GASES, OIL, STEAM, WATER
PASSAGE SIZE / PORT SIZE / CHANNEL SIZE	1/8" & 3/8"
HOUSING MATERIAL	ALUMINUM
CONNECTION TYPE	NPT, BSP, O-RING FACE SEAL
MAX. WORKING PRESSURE	600 PSI (40 BAR)
MAX. TEMPERATURE	250° F
MAX. SPEED	500 RPM
MAX. VACUUM	28 HG
MOUNTING OPTIONS	TAPPED HOLES ON HOUSING / TAPPED HOLES ON ROTOR
PLATINGS AND COATINGS	SHAFT: E-NICKEL & HOUSING: BLUE, BLACK, GREY ANODIZE
SEAL TYPE	3/8" (9.5MM) AS PER APPLICATION / FILLED PTFE (STD)

Subject to technical change without notice.

**FOR LOW TORQUE SERVICE  
FDLC 12 PASSAGE ROTARY UNIONS**



\* PORTING SIZE (PERMANENTLY PLUGGED.)

**12 PASSAGE / PORT DIMENSION**

MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
FDLC-AL-12-03N	66.5	174	108	38	9	19	11	1/8" - 27 NPT	62	55	44.5	M5 x 0.8	75	4	9.5
FDLC-AL-12-03B	66.5	174	108	38	9	19	11	1/8" - 28 BSP	62	55	44.5	M5 x 0.8	75	4	9.5
FDLC-AL-12-10N	101.5	359	217	68	21	31	19	3/8" - 18 NPT	112	87	76	M6 x 1	112	9.5	11
FDLC-AL-12-10B	101.5	359	217	68	21	31	19	3/8" - 19 BSP	112	87	76	M6 x 1	112	9.5	11

Subject to technical change without notice.

**FOR LOW TORQUE SERVICE  
FDLC 24 PASSAGE ROTARY UNIONS**



**DESIGN FEATURES**

- SEALS DESIGNED FOR LOW TORQUE SERVICE.
- LIGHTWEIGHT CONSTRUCTION, AVAILABLE IN ALUMINUM ALLOY BODY MATERIAL.
- CORROSION RESISTANT.
- COMPACT DESIGN.
- LOW HEAT GENERATION.
- NPT / BSP / BSPT / 'O'RING CONNECTION OPTIONS.
- COST-EFFECTIVE MODEL.
- INCREASED SEAL LIFE PERFORMANCE.
- HIGHLY PRECISE & QUALITY.
- EXTREMELY LONG SERVICE LIFE.
- **CUSTOMIZED OPTIONS AVAILABLE.**

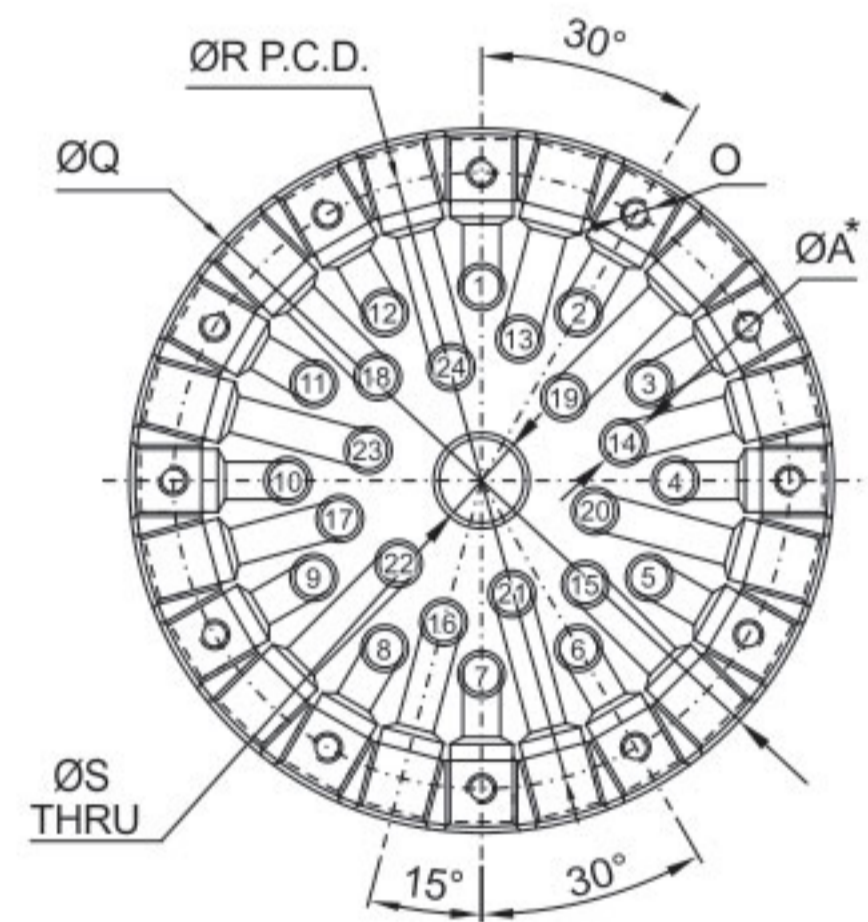
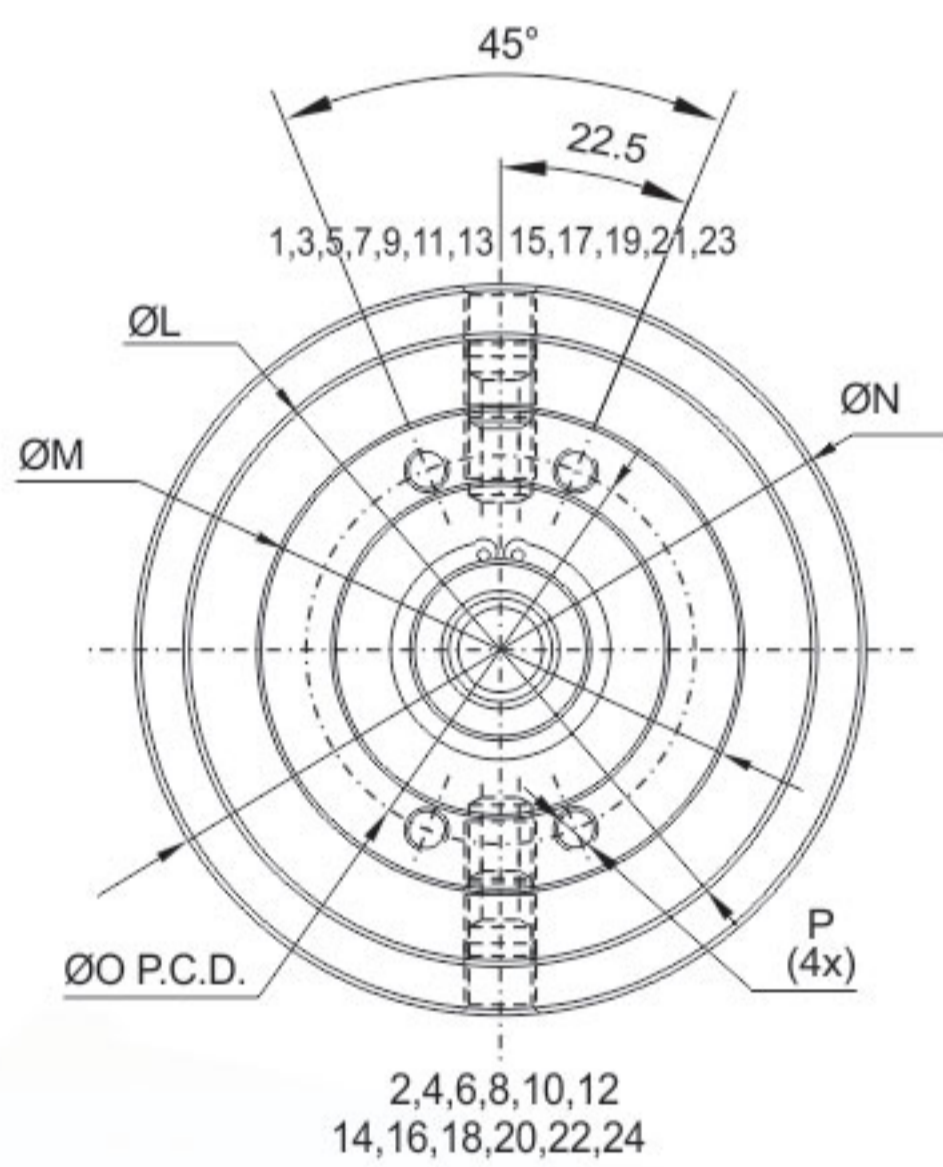
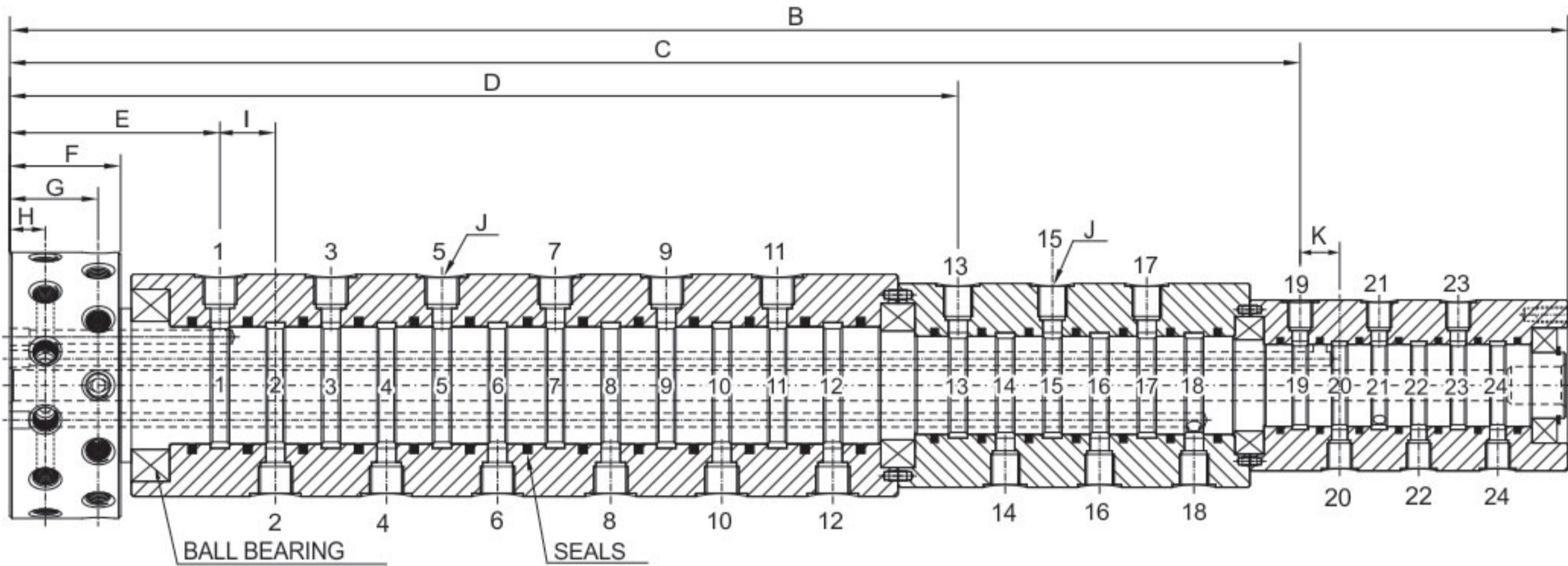
**FDL SERIES**

**OPERATING DATA**

NO. OF PASSAGE / PORTS / CHANNELS	24
MEDIA	COOLANT, AIR, GASES, OIL, STEAM, WATER
PASSAGE SIZE / PORT SIZE / CHANNEL SIZE	1/8"
HOUSING MATERIAL	ALUMINUM
CONNECTION TYPE	NPT, BSP, O-RING FACE SEAL
MAX. WORKING PRESSURE	600 PSI (40 BAR)
MAX. TEMPERATURE	250° F
MAX. SPEED	500 RPM
MAX. VACUUM	28 HG
MOUNTING OPTIONS	TAPPED HOLES ON HOUSING / TAPPED HOLES ON ROTOR
PLATINGS AND COATINGS	SHAFT: E-NICKEL & HOUSING: BLUE, BLACK, GREY ANODIZE
SEAL TYPE	3/8" (9.5MM) AS PER APPLICATION / FILLED PTFE (STD)

Subject to technical change without notice.

**FOR LOW TORQUE SERVICE  
FDLC 24 PASSAGE ROTARY UNIONS**



\* PORTING SIZE (PERMANENTLY PLUGGED.)



**24 PASSAGE / PORT DIMENSION**

MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
FDLC-AL-24-03N	4	356	290	209	58	32	24	11	11	1/8" - 27 NPT	9	75	55	87	44.5	M5 x 0.8	94	82.5	9.5
FDLC-AL-24-03B	4	356	288	209	58	32	24	11	11	1/8" - 28 BSP	9	75	55	87	44.5	M5 x 0.8	94	82.5	9.5

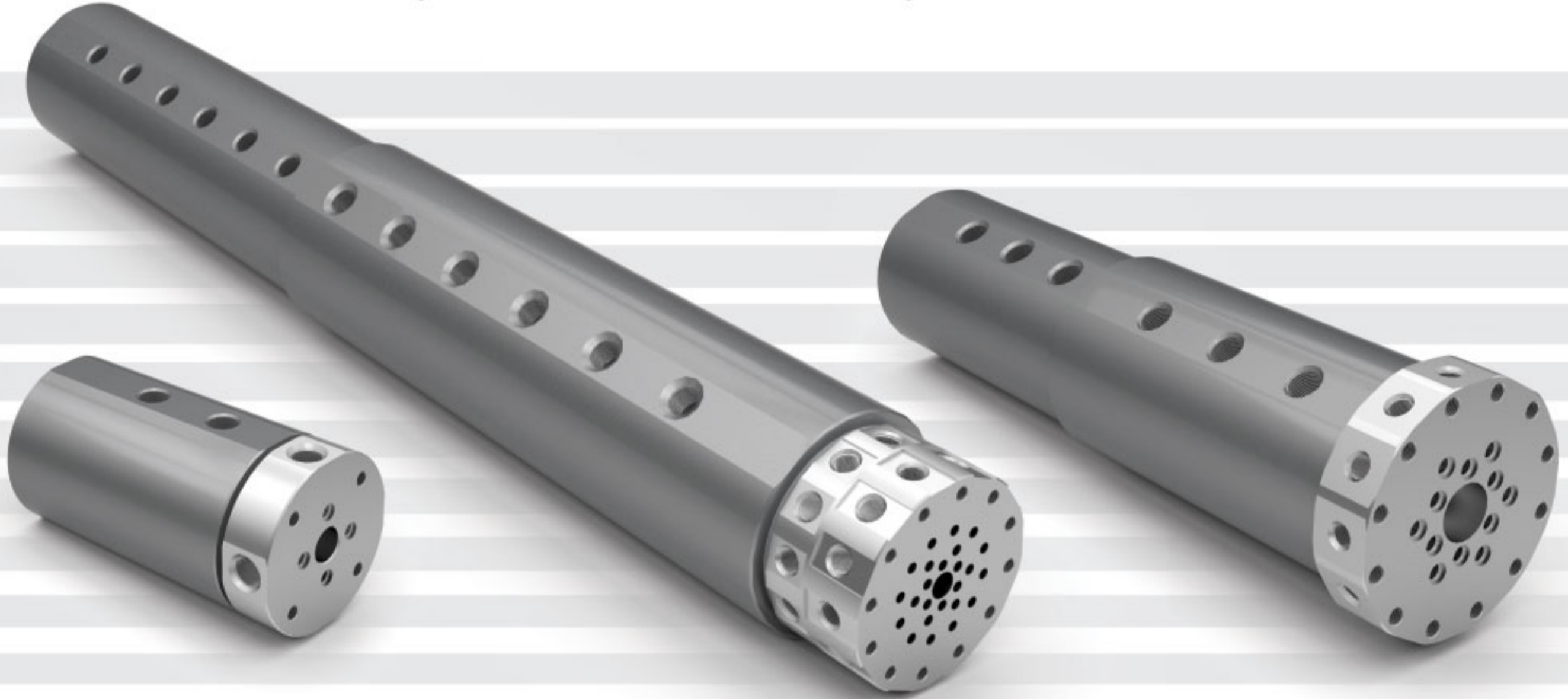
Subject to technical change without notice.

# FDH SERIES

( FOR HIGH PRESSURE APPLICATIONS UP TO 7500 PSI )

MULTI PASSAGE / MULTI PORT / MULTI CHANNEL

ROTARY UNIONS / ROTARY JOINTS / ROTARY DISTRIBUTORS



FDH SERIES

'FOURWENTS' ROTARY UNIONS ARE ENGINEERED TO ENDURE A WIDE RANGE OF APPLICATIONS FOR A VARIETY OF ENVIRONMENTS & WORKING CONDITIONS.

'FOURWENTS' ROTARY UNIONS OF MULTI PASSAGES / PORTS ARE MOST SUITABLE TO HANDLE DIFFERENT TYPES OF MEDIA LIKE: AIR, COOLANT, WATER, GASES, STEAM & OILS SIMULTANEOUSLY.

TELL US ABOUT YOUR REQUIREMENTS / APPLICATIONS, SO THAT 'FOURWENTS' CAN MAKE PROPER RECOMMENDATIONS.

- NO. OF PASSAGES / PORTS / CHANNELS REQUIRED
- MEDIA TO BE HANDLE.
- WORKING PRESSURE.
- WORKING TEMPERATURE.
- MAX. SPEED ( RPM )
- PASSAGE / PORT / CHANNEL SIZE REQUIRED
- CONNECTION TYPE: NPT , BSP, BSPT, 'O' RINGS ETC.
- MOUNTING DIMENSIONS IF SPECIFIC.



Subject to technical change without notice.

## HIGH PRESSURE & COMPACT **FDHC 2, 4, 6 & 8 PASSAGE ROTARY UNIONS**



### DESIGN FEATURES

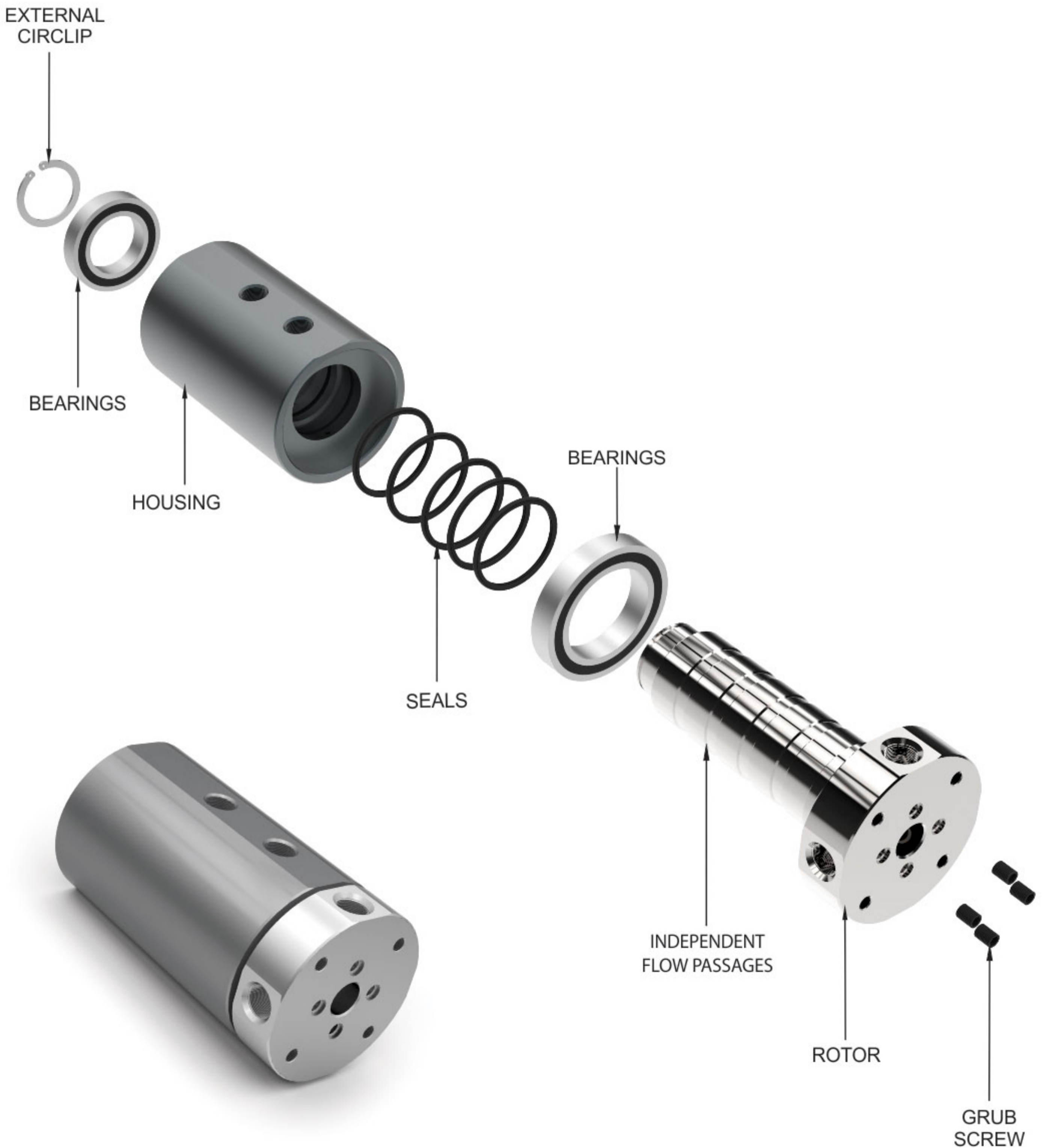
- COMPACT DESIGN.
- NPT / BSP / O-RING FACE SEAL CONNECTIONS.
- EXCLUSIVE 'FOURWENTS' SEALING TECHNOLOGY.
- FOR HIGH PRESSURE REQUIREMENTS UP TO 7500 PSI.
- VACUUM & BI-DIRECTIONAL SEALING
- HIGHLY PRECISE & QUALITY.
- EXTREMELY LONG SERVICE LIFE.
- **CUSTOMIZED OPTIONS AVAILABLE.**

### OPERATING DATA

NO. OF PASSAGE / PORTS / CHANNELS	2	4	6	8
MEDIA	COOLANT, AIR, GASES, OIL, STEAM, WATER			
PASSAGE SIZE / PORT SIZE / CHANNEL SIZE	1/8"			
HOUSING MATERIAL	CARBON STEEL			
CONNECTION TYPE	NPT, BSP OR 'O' RING SEAL FACE			
MAX. WORKING PRESSURE	7500 PSI (515 BAR)			
MAX. TEMPERATURE	250° F			
MAX. SPEED	300 RPM			
MAX. VACUUM	28 HG			
THRU BORE SIZE	3/8" (9.5 MM)			
PLATINGS AND COATINGS	SHAFT : E-NICKLE AND HOUSING: BLACK OXIDE			
SEAL TYPE	AS PER APPLICATION / FILLED PTFE ( STD )			
MOUNTING OPTIONS	TAPPED HOLES ARE PROVIDED ON BOTH THE HOUSING AND SHAFT MOUNTING THE ASSEMBLY			

Subject to technical change without notice.

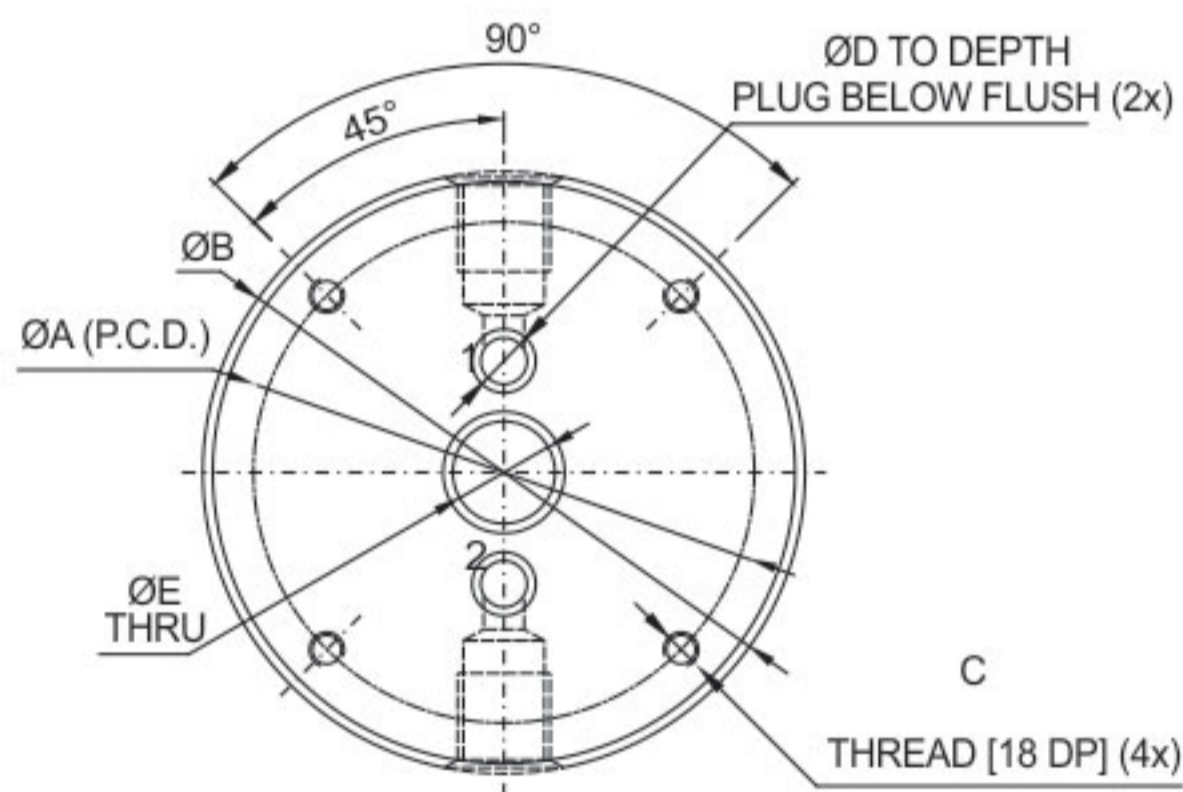
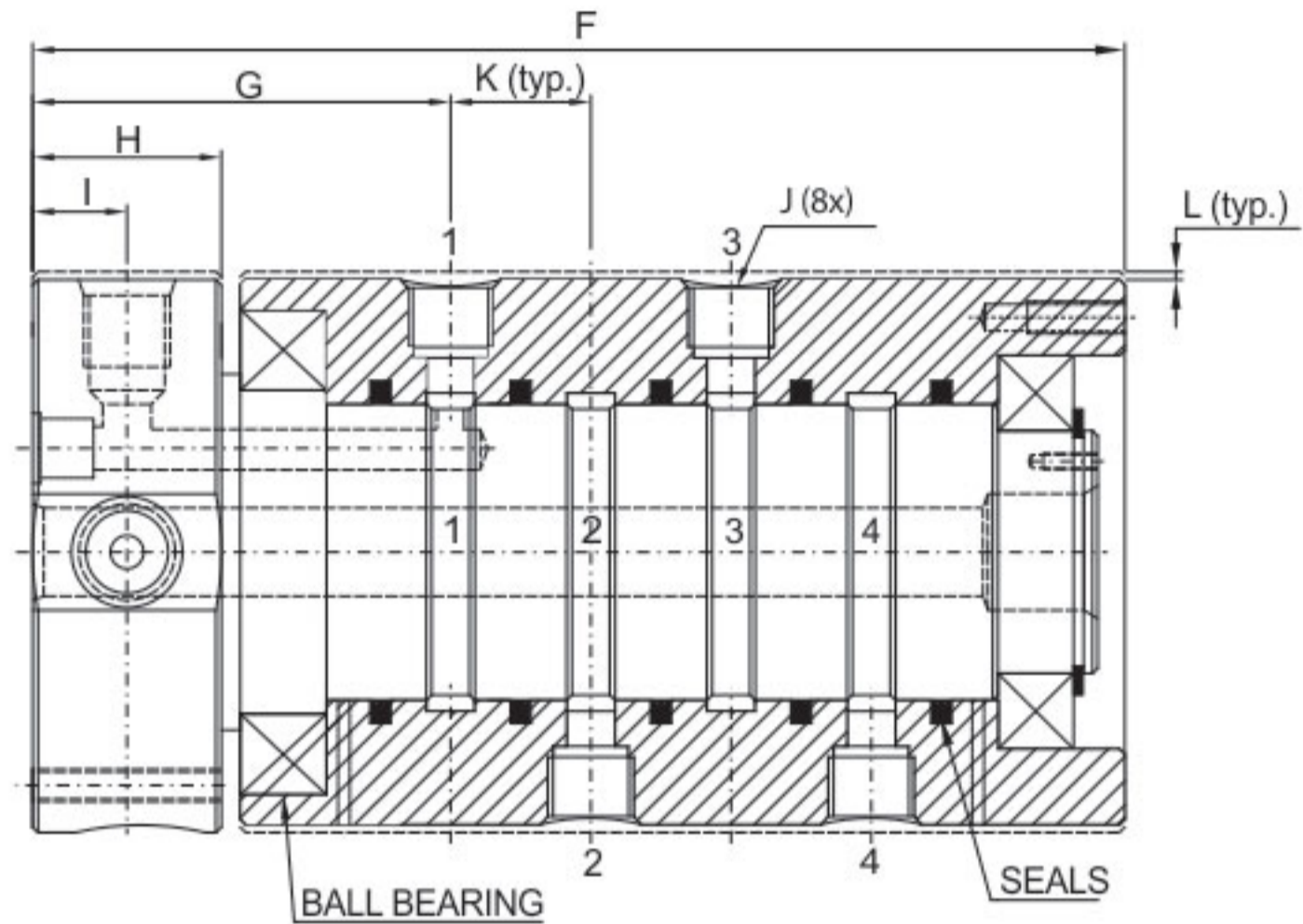
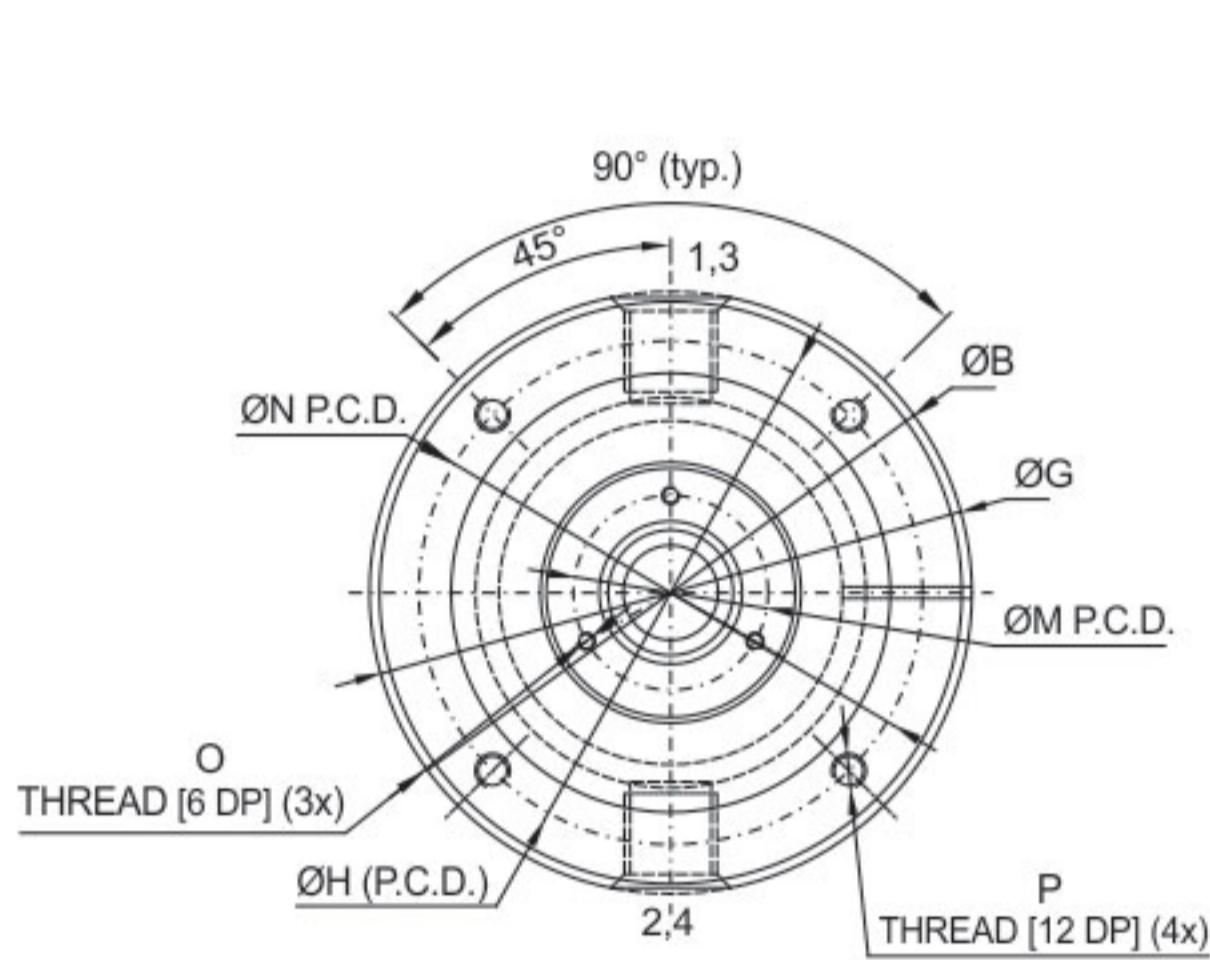
**EXPLODED VIEW OF  
FDHC TYPE MULTI PASSAGE ROTARY UNIONS**



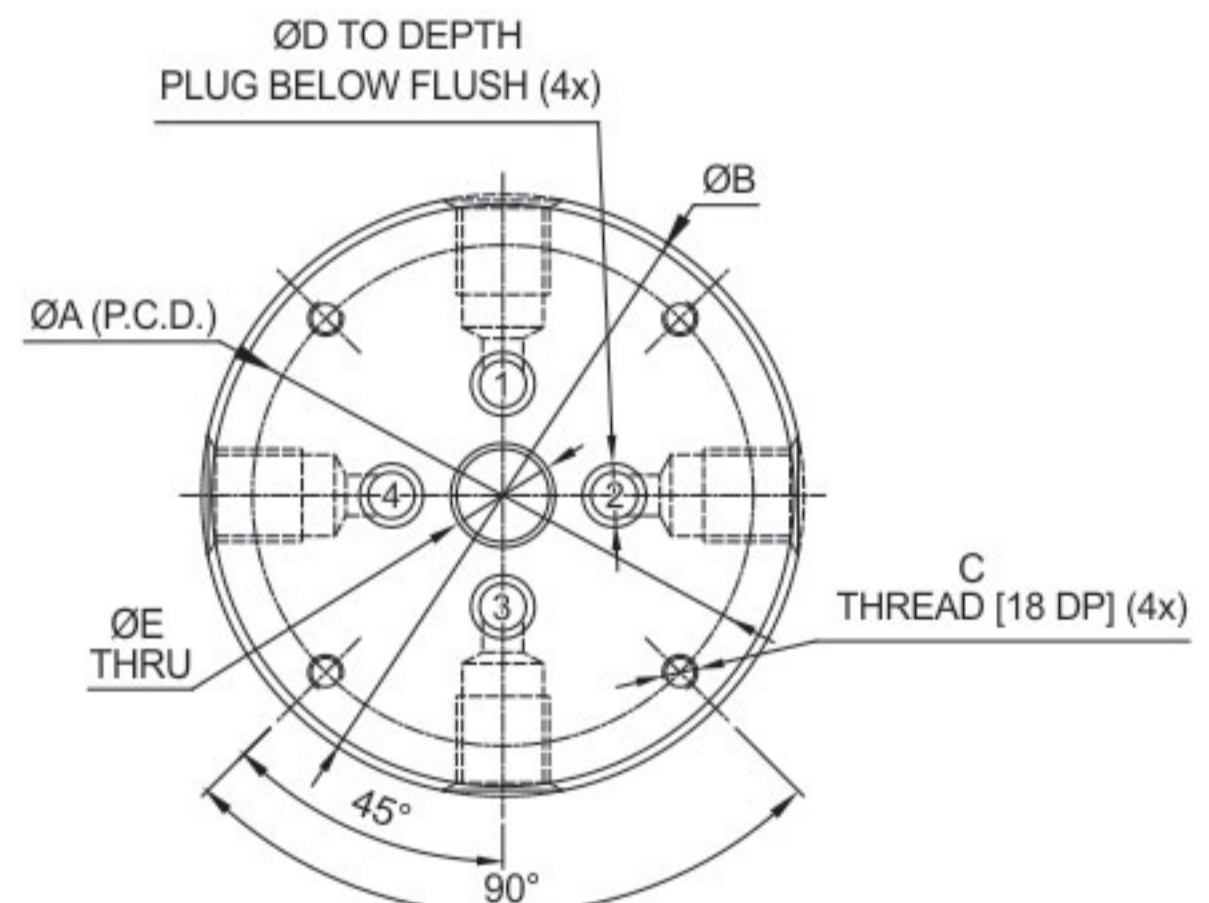
**FDH SERIES**

Subject to technical change without notice.

**FOR PRESSURE & COMPACT  
FDHC 2 & 4 PASSAGE ROTARY UNIONS**



**2 PASSAGE**



**4 PASSAGE**

**2 PASSAGE / PORT DIMENSION**

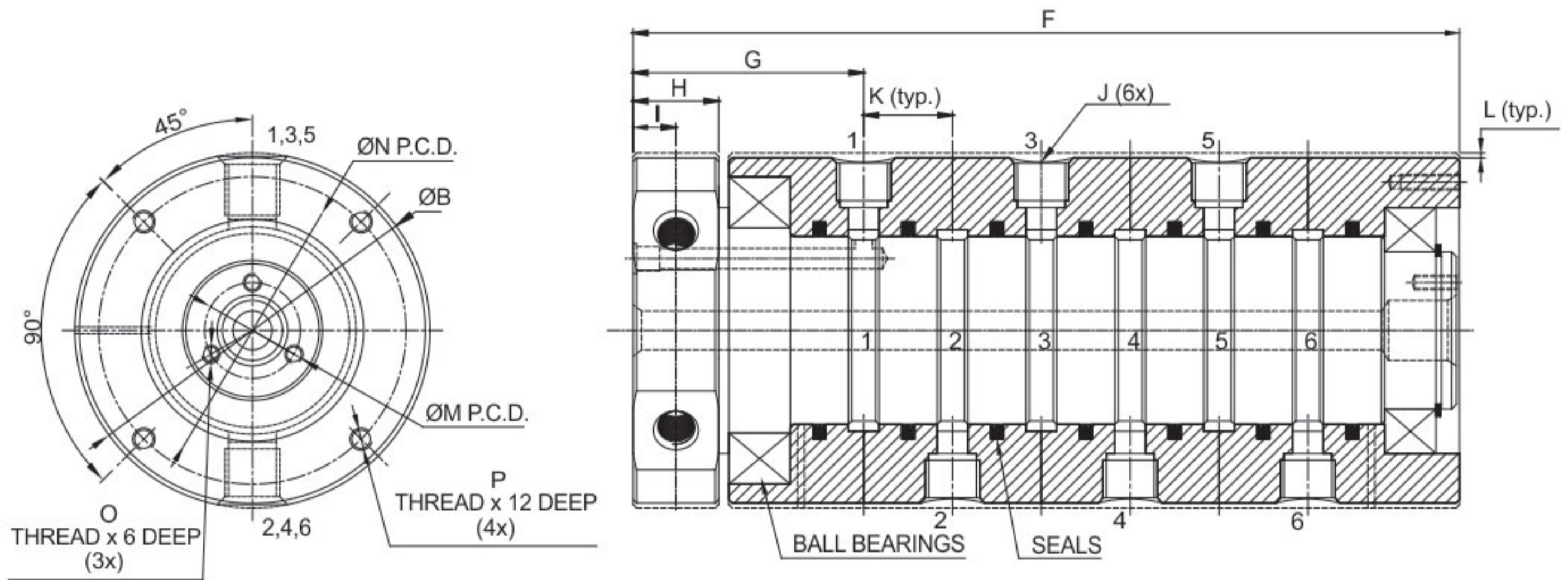
MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
FDHC-CS-02-03N	63.5	75	M6 x 1	5	9.5	92	47	19	9.5	1/8" - 27 NPT	16	1	18.5	60.5	M3 x 0.5	M6 x 1
FDHC-CS-02-03B	63.5	75	M6 x 1	5	9.5	92	47	19	9.5	1/8" - 28 BSP	16	1	18.5	60.5	M3 x 0.5	M6 x 1

**4 PASSAGE / PORT DIMENSION**

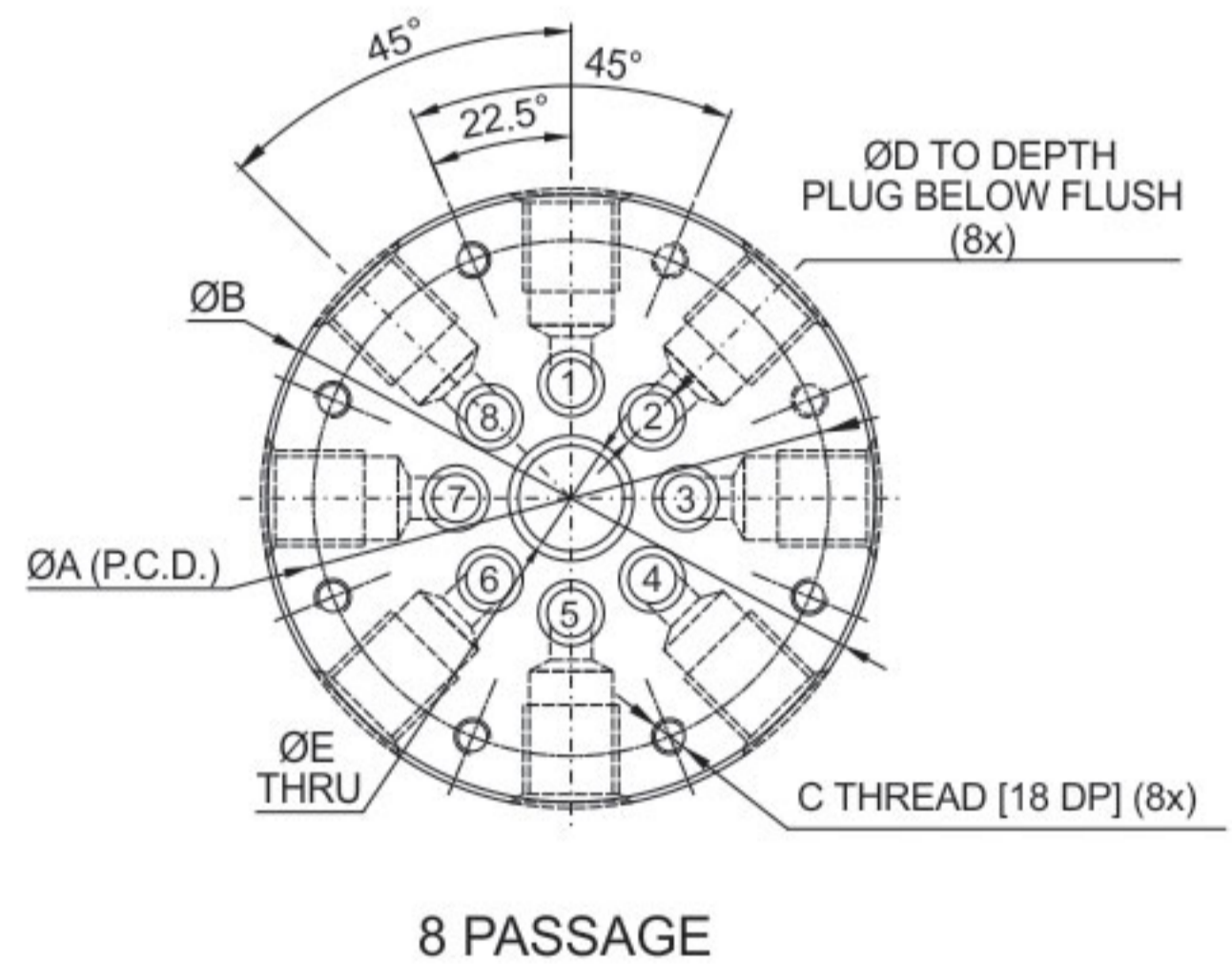
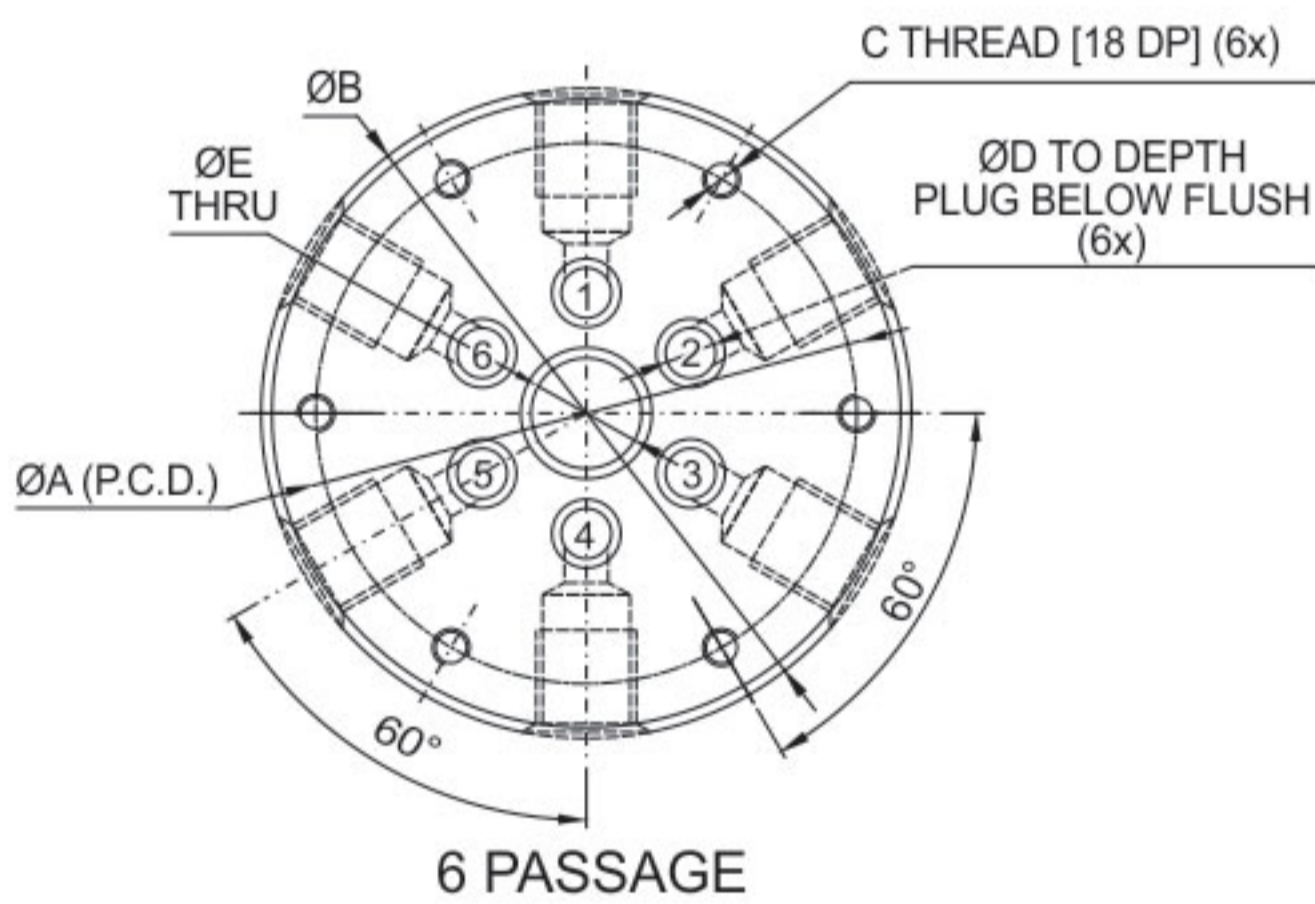
MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
FDHC-CS-04-03N	63.5	75	M6 x 1	5	9.5	124	47	19	9.5	1/8" - 27 NPT	16	1	18.5	60.5	M3 x 0.5	M6 x 1
FDHC-CS-04-03B	63.5	75	M6 x 1	5	9.5	124	47	19	9.5	1/8" - 28 BSP	16	1	18.5	60.5	M3 x 0.5	M6 x 1

Subject to technical change without notice.

**FOR PRESSURE & COMPACT  
FDHC 6 & 8 PASSAGE ROTARY UNIONS**



**FDH SERIES**



**6 PASSAGE / PORT DIMENSION**

MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
FDHC-CS-06-03N	63.5	75	M6 x 1	5	9.5	156	47	19	9.5	1/8" - 27 NPT	16	1	18.5	60.5	M3 x 0.5	M6 x 1
FDHC-CS-06-03B	63.5	75	M6 x 1	5	9.5	156	47	19	9.5	1/8" - 28 BSP	16	1	18.5	60.5	M3 x 0.5	M6 x 1

**8 PASSAGE / PORT DIMENSION**

MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
FDHC-CS-08-03N	63.5	75	M6 x 1	5	9.5	188	47	19	9.5	1/8" - 27 NPT	16	1	18.5	60.5	M3 x 0.5	M6 x 1
FDHC-CS-08-03B	63.5	75	M6 x 1	5	9.5	188	47	19	9.5	1/8" - 28 BSP	16	1	18.5	60.5	M3 x 0.5	M6 x 1

Subject to technical change without notice.

**HIGH PRESSURE & COMPACT  
FDHC 12, 16 & 24 PASSAGE ROTARY UNIONS**



**DESIGN FEATURES**

- COMPACT DESIGN.
- NPT / BSP / O-RING FACE SEAL CONNECTIONS.
- EXCLUSIVE 'FOURWENTS' SEALING TECHNOLOGY FOR HIGH PRESSURE REQUIREMENTS UP TO 7500 PSI.
- VACUUM & BI-DIRECTIONAL SEALING
- HIGHLY PRECISE & QUALITY.
- EXTREMELY LONG SERVICE LIFE.
- **CUSTOMIZED OPTIONS AVAILABLE.**

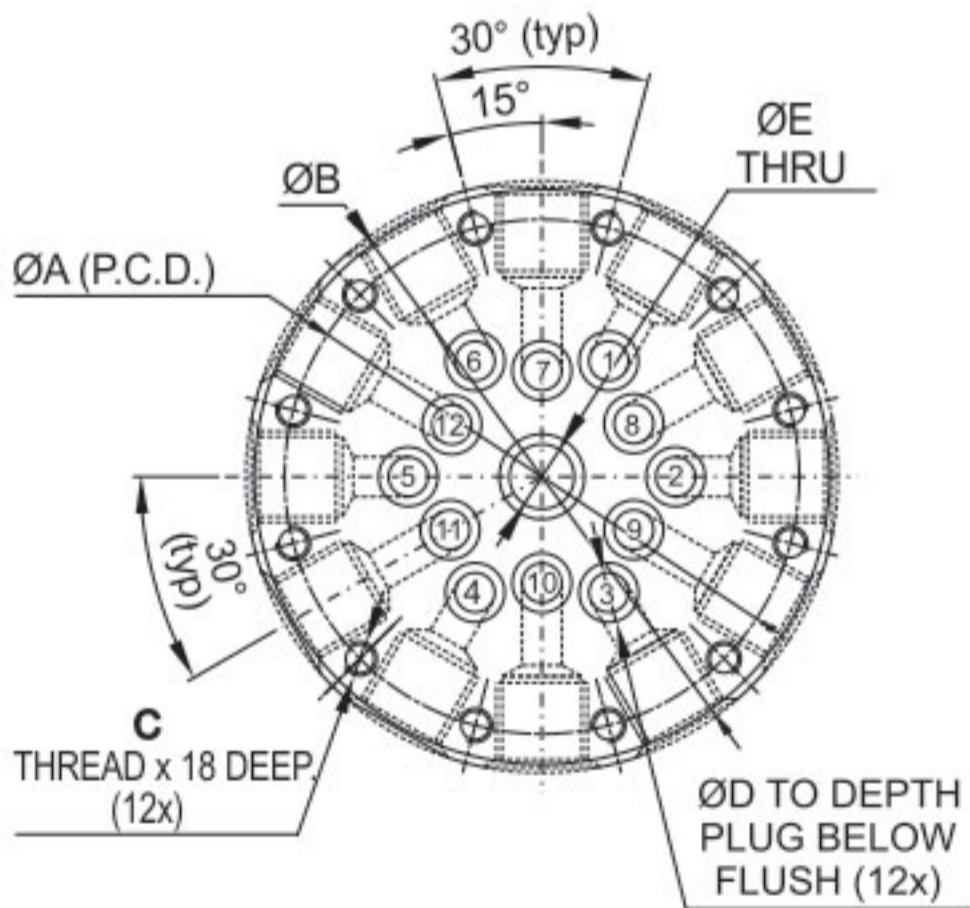
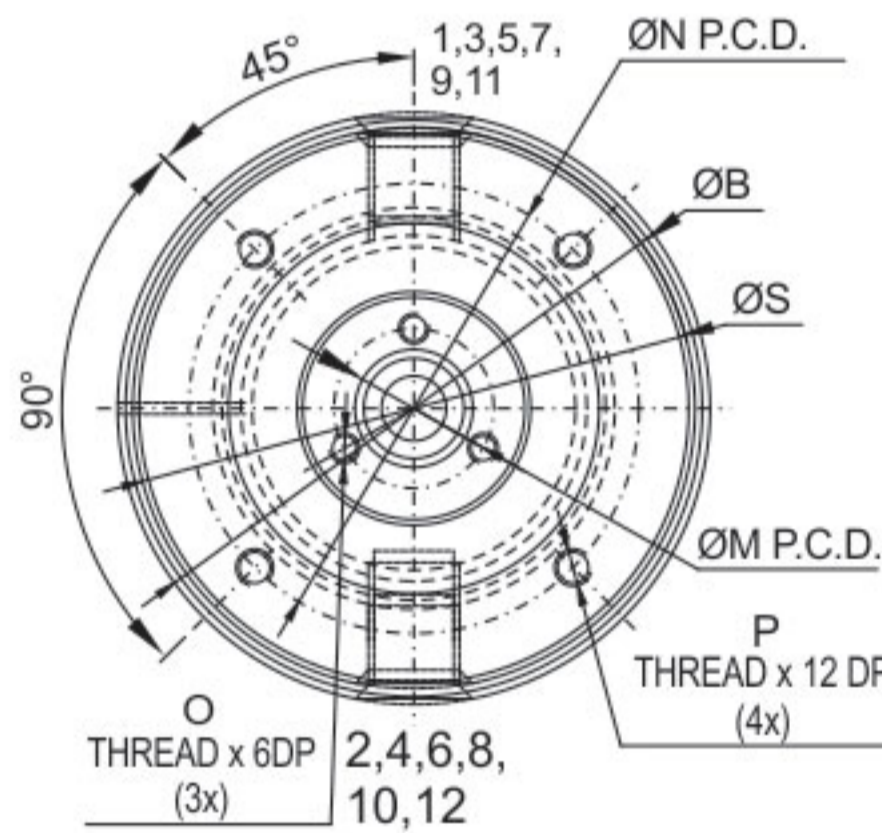
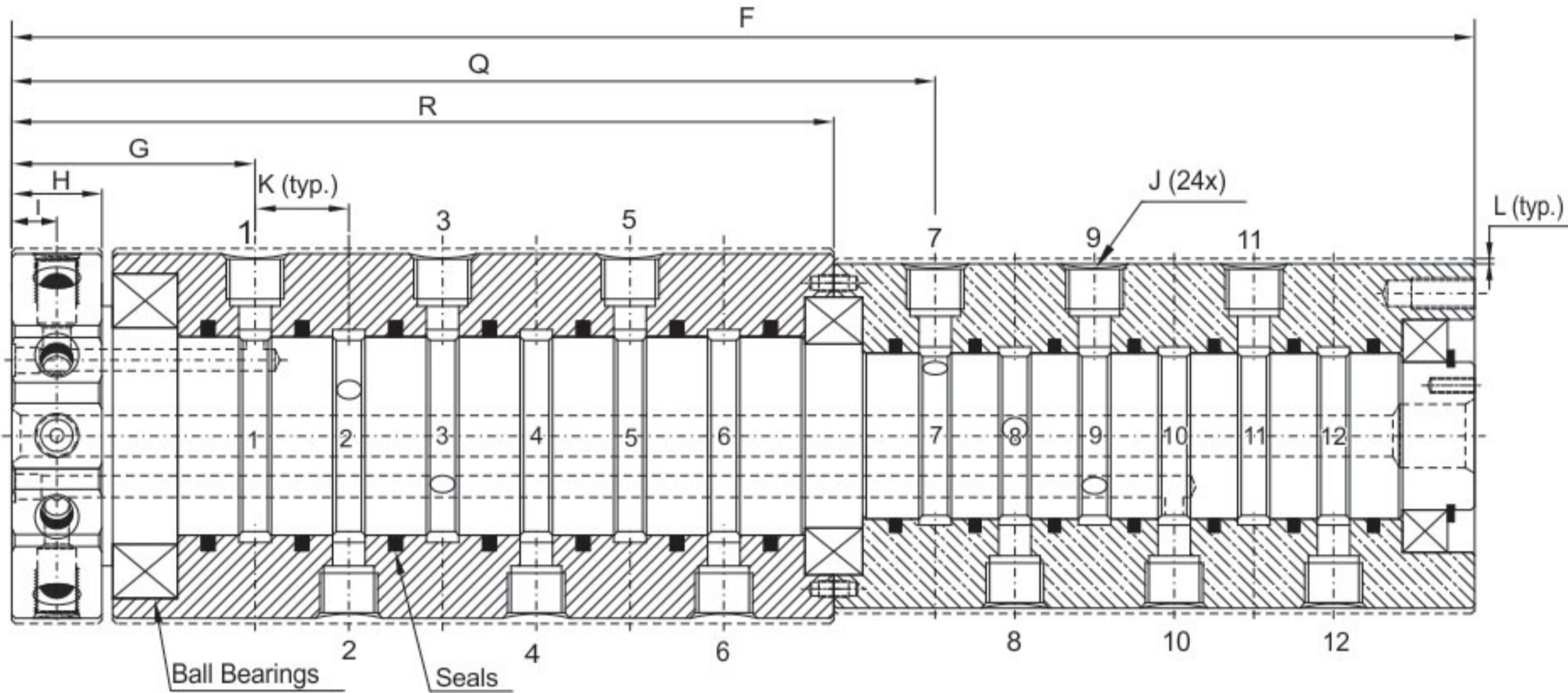
**OPERATING DATA**

NO. OF PASSAGE / PORTS / CHANNELS	12	16	24
MEDIA	COOLANT, AIR, GASES, OIL, STEAM, WATER		
PASSAGE SIZE / PORT SIZE / CHANNEL SIZE	1/8"		
HOUSING MATERIAL	CARBON STEEL		
CONNECTION TYPE	NPT, BSP OR 'O' RING SEAL FACE		
MAX. WORKING PRESSURE	7500 PSI (515 BAR)		
MAX. TEMPERATURE	250° F		
MAX. SPEED	300 RPM		
MAX. VACUUM	28 HG		
THRU BORE SIZE	3/8" (9.5 MM)		
PLATINGS AND COATINGS	SHAFT : E-NICKLE AND HOUSING: BLACK OXIDE		
SEAL TYPE	AS PER APPLICATION / FILLED PTFE ( STD )		
MOUNTING OPTIONS	TAPPED HOLES ARE PROVIDED ON BOTH THE HOUSING AND SHAFT MOUNTING THE ASSEMBLY		

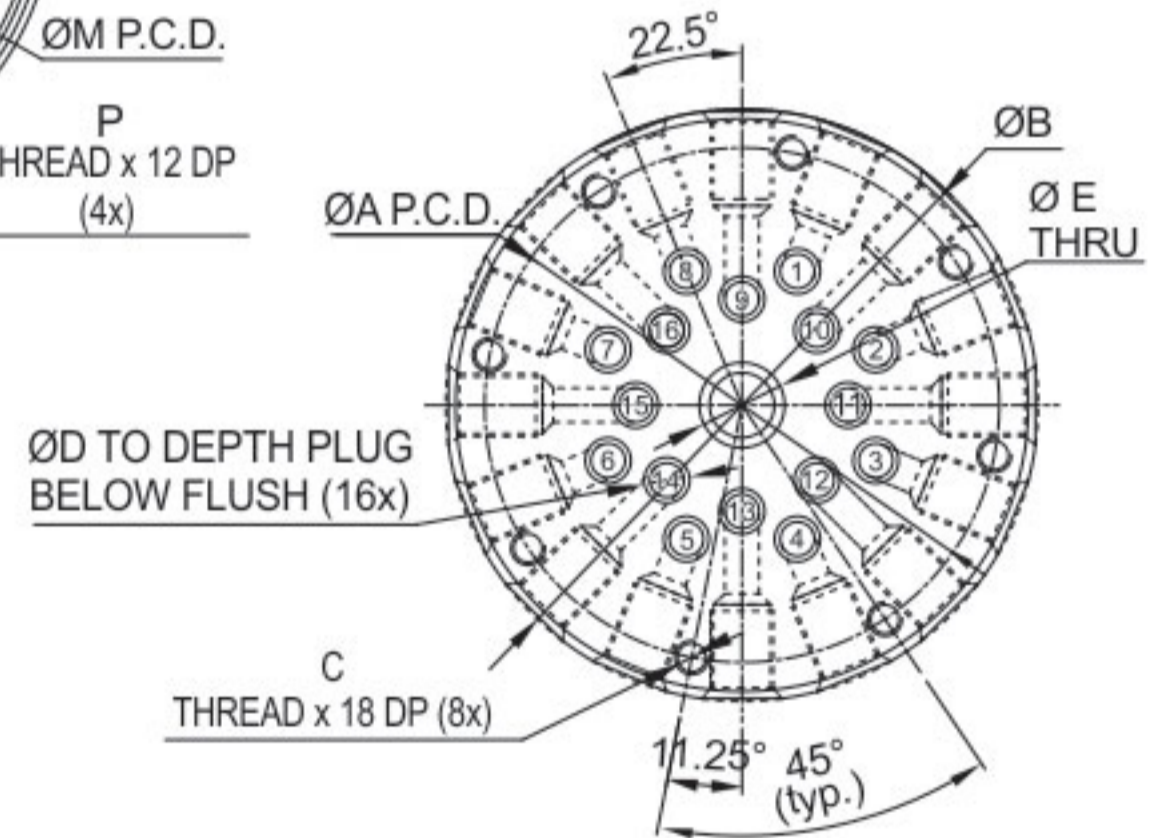
Subject to technical change without notice.

*Ideal for New as well as Easy Retrofit Installations...*

**HIGH PRESSURE & COMPACT  
FDHC 12 & 16 PASSAGE ROTARY UNIONS**



**12 PASSAGE**



**16 PASSAGE**

**12 PASSAGE / PORT DIMENSION**

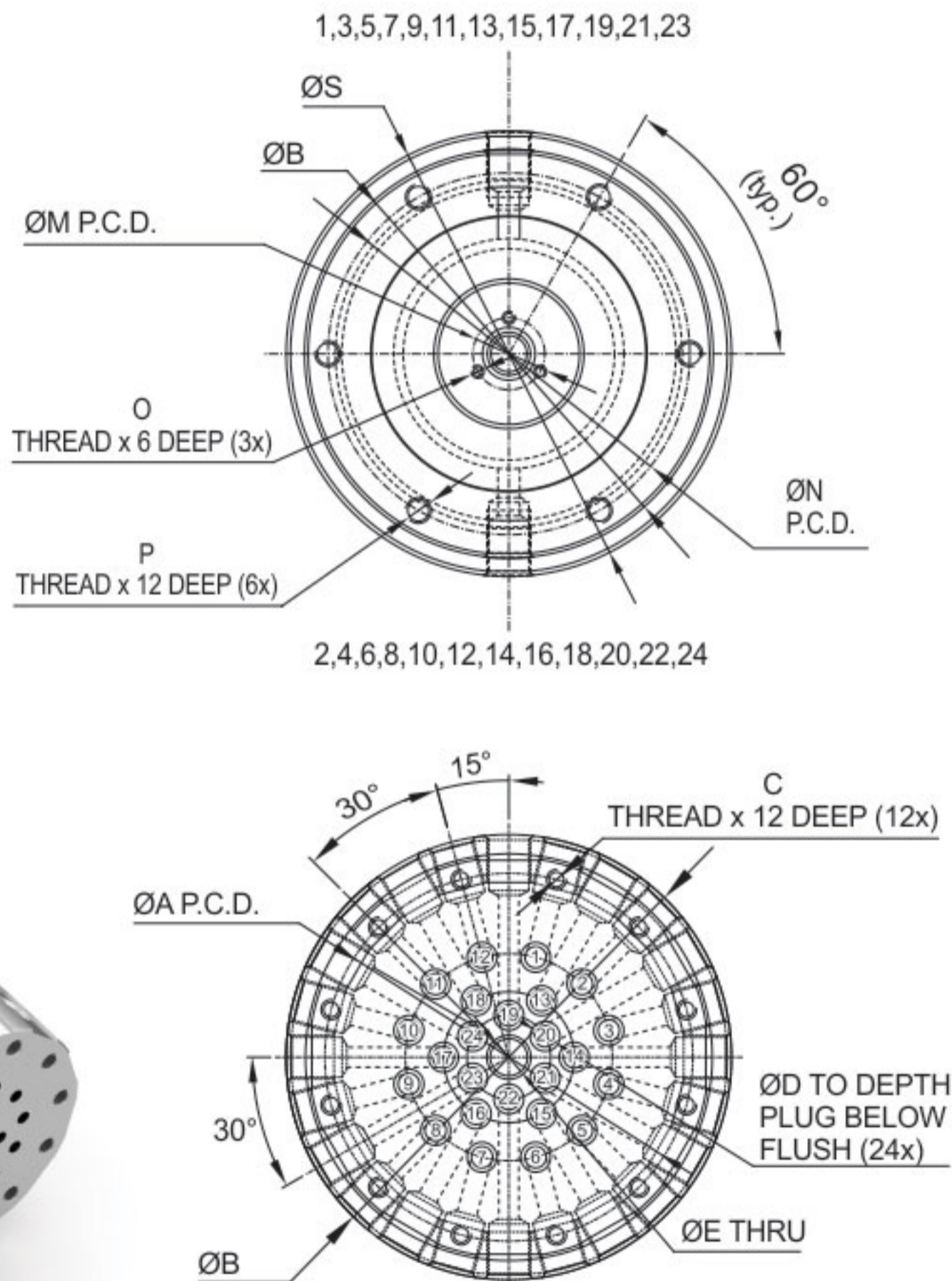
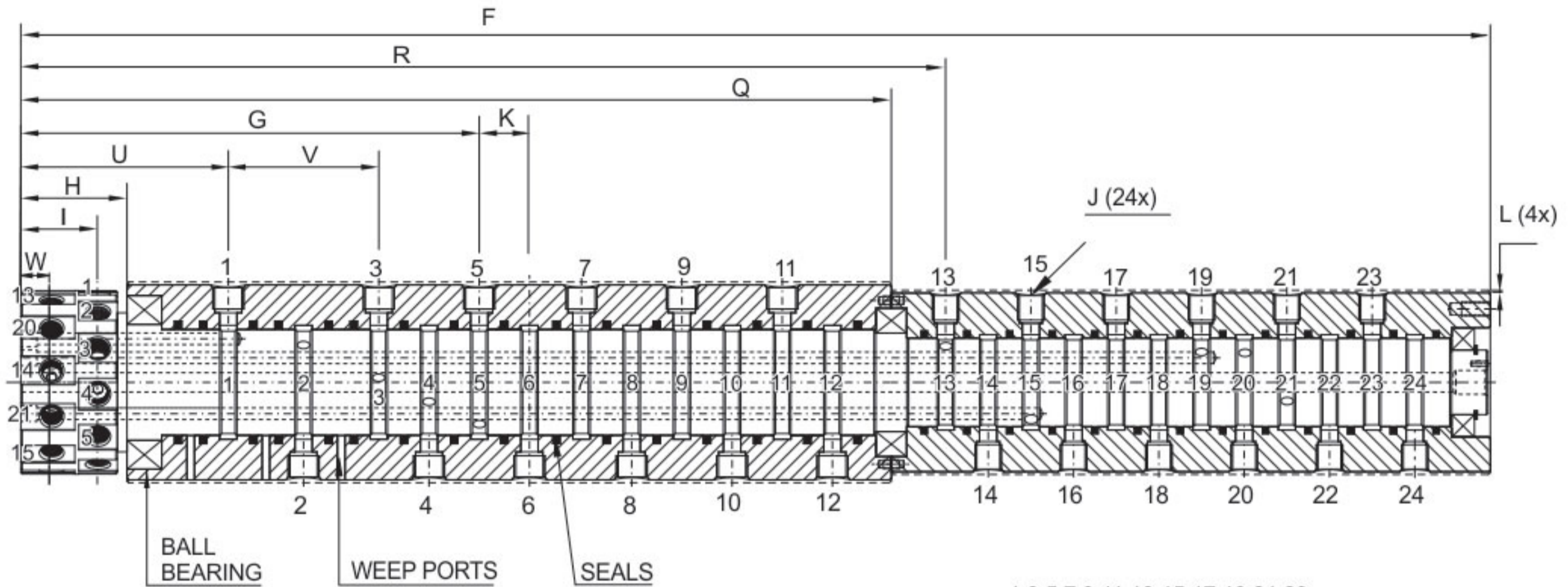
MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
FDHC-CS-12-03N	76	87	M6 x 1	5	9.5	276	50	20	11	1/8" - 28 NPT	16	1	18.5	60.5	M3 x 0.5	M6 x 1	166	148	75
FDHC-CS-12-03B	76	87	M6 x 1	5	9.5	276	50	20	11	1/8" - 28 NPT	16	1	18.5	60.5	M3 x 0.5	M6 x 1	166	148	75

**16 PASSAGE / PORT DIMENSION**

MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
FDHC-CS-16-03N	101.5	113	M6 x 1	5	9.5	355	51	20	11	1/8" - 28 NPT	17	1	18.5	60.5	M3 x 0.5	M6 x 1	209	190	75
FDHC-CS-16-03B	101.5	113	M6 x 1	5	9.5	355	51	20	11	1/8" - 28 NPT	17	1	18.5	60.5	M3 x 0.5	M6 x 1	209	190	75

Subject to technical change without notice.

**HIGH PRESSURE & COMPACT  
FDHC 24 PASSAGE ROTARY UNIONS**



**FDH SERIES**

**24 PASSAGE / PORT DIMENSION**

MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
FDHC-CS-24-03N	85.5	100	M6 x 1	5	9.5	560	123	40	31	1/8"- 28 NPT	18	1	18.5	84	M3 x 0.5	M6 x 1	326	306	113	5	73	25	11
FDHC-CS-24-03B	85.5	100	M6 x 1	5	9.5	560	123	40	31	1/8"- 28 NPT	18	1	18.5	84	M3 x 0.5	M6 x 1	326	306	113	5	73	25	11

Subject to technical change without notice.

*Ideal for New as well as Easy Retrofit Installations...*

# FDHS SERIES

STAINLESS STEEL CONSTRUCTION

( FOR HIGH PRESSURE APPLICATIONS UP TO 20,000 PSI )

MULTI PASSAGE / MULTI PORT / MULTI CHANNEL

ROTARY UNIONS / ROTARY JOINTS / ROTARY DISTRIBUTORS



FDHS SERIES

'FOURWENTS' ROTARY UNIONS ARE ENGINEERED TO ENDURE A WIDE RANGE OF APPLICATIONS FOR A VARIETY OF ENVIRONMENTS & WORKING CONDITIONS.

'FOURWENTS' ROTARY UNIONS OF MULTI PASSAGES / PORTS ARE MOST SUITABLE TO HANDLE DIFFERENT TYPES OF MEDIA LIKE: AIR, COOLANT, WATER, GASES, STEAM & OILS SIMULTANEOUSLY.

TELL US ABOUT YOUR REQUIREMENTS / APPLICATIONS, SO THAT 'FOURWENTS' CAN MAKE PROPER RECOMMENDATIONS.

- NO. OF PASSAGES / PORTS / CHANNELS REQUIRED
- MEDIA TO BE HANDLE.
- WORKING PRESSURE.
- WORKING TEMPERATURE.
- MAX. SPEED ( RPM )
- PASSAGE / PORT / CHANNEL SIZE REQUIRED
- CONNECTION TYPE: NPT , BSP, BSPT, 'O' RINGS ETC.
- MOUNTING DIMENSIONS IF SPECIFIC.



Subject to technical change without notice.

**FDHSS 1 , 3 & 4 PASSAGE ROTARY UNIONS**



**DESIGN FEATURES**

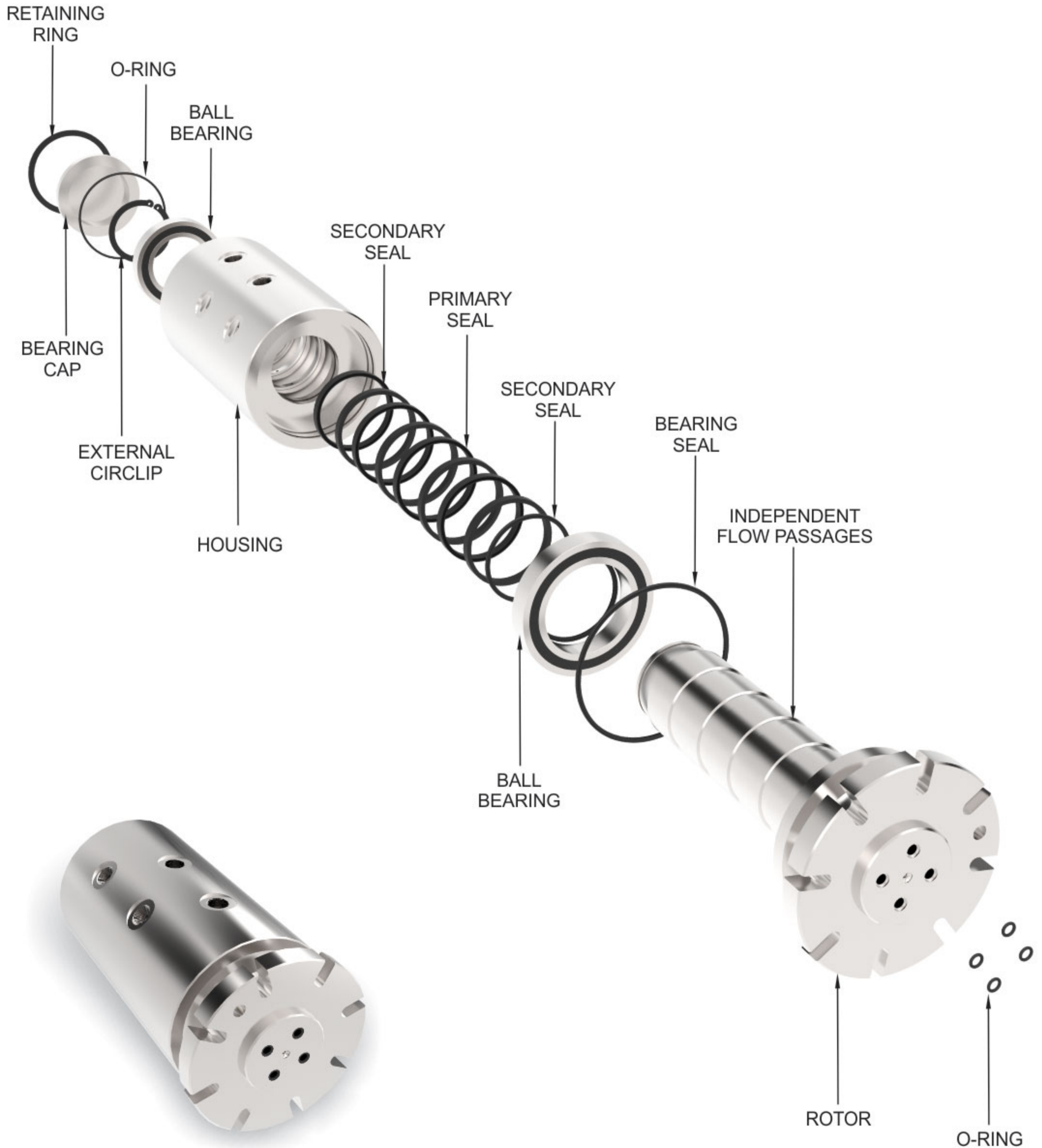
- HIGH PRESSURE REQUIREMENTS UP TO 20,000 PSI.
- COMPLETE STAINLESS STEEL CONSTRUCTION.
- MEDIUM PRESSURE HOUSING CONNECTIONS.
- EXCLUSIVE 'FOURWENTS' SEALING TECHNOLOGY.
- SUITABLE FOR USE IN MARINE / OFF-SHORE ENVIRONMENT.
- O-RING FLANGE MOUNT SHAFT CONNECTIONS.
- MODIFIED OR SPECIALIZE CONFIGURATIONS AVAILABLE.
- HIGHLY PRECISE & QUALITY.
- EXTREMELY LONG SERVICE LIFE.
- **CUSTOMIZED OPTIONS AVAILABLE.**

**FDHSS SERIES**

OPERATING DATA			
NO. OF PASSAGE / PORTS / CHANNELS	1	3	4
MEDIA	AIR/GAS, CHEMICAL, DI / TAP WATER, OIL, WATER / GLYCOL		
PASSAGE SIZE	DIA. 5 AND DIA. 11		
PORT SIZE	9/16" - 18 UNF AND 3/4" - 14 NPS		
HOUSING MATERIAL	STAINLESS STEEL		
CONNECTION TYPE	MEDIUM PRESSURE TAPPED HOUSING CONNECTIONS & O-RING FLANGE MOUNT SHAFT CONNECTIONS		
MAX. WORKING PRESSURE	20,000 PSI (1375 BAR)		
MAX. TEMPERATURE	250° F		
MAX. SPEED	50 RPM		
MAX. VACUUM	N/A - NOT FOR USE WITH VACUUM		
MOUNTING OPTIONS	THE FDHSS SERIES UNIONS HAVE A UNIQUE SHAFT CONFIGURATION THAT CONSISTS OF INDIVIDUAL FEMALE PASSAGES WITH AN O-RING GLAND AROUND EACH FOR OPTIONAL FLANGE MOUNTING. THERE ARE ALSO TAPPED HOLES ON THE END OF THE HOUSING FOR MOUNTING THE ASSEMBLY		
PLATINGS AND COATINGS	STAINLESS STEEL		
SEAL TYPE	SPRING-ENERGIZED UP SEAL		
SLIP RING OPTIONS	CUSTOM OPTIONS AVAILABLE ., PLEASE CONSULT WITH 'FOURWENTS'		

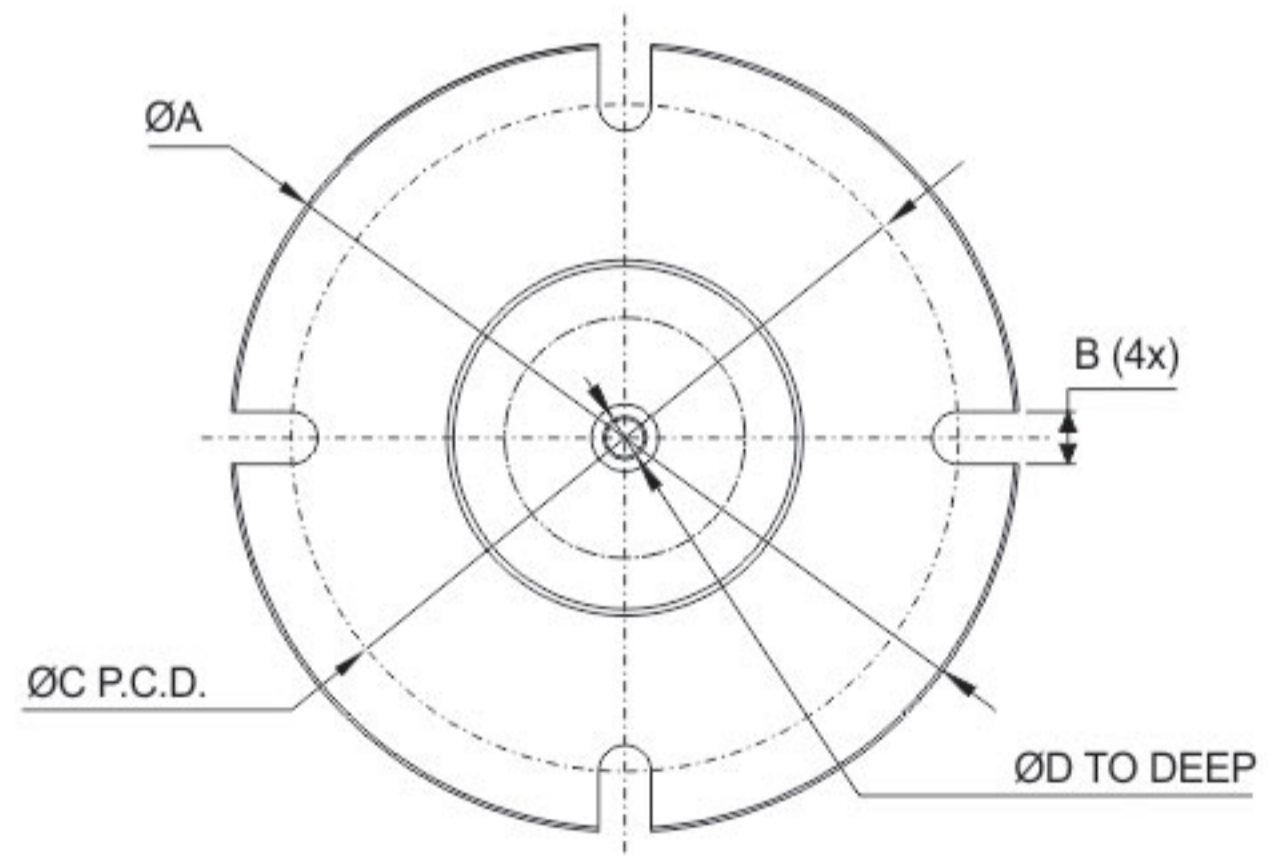
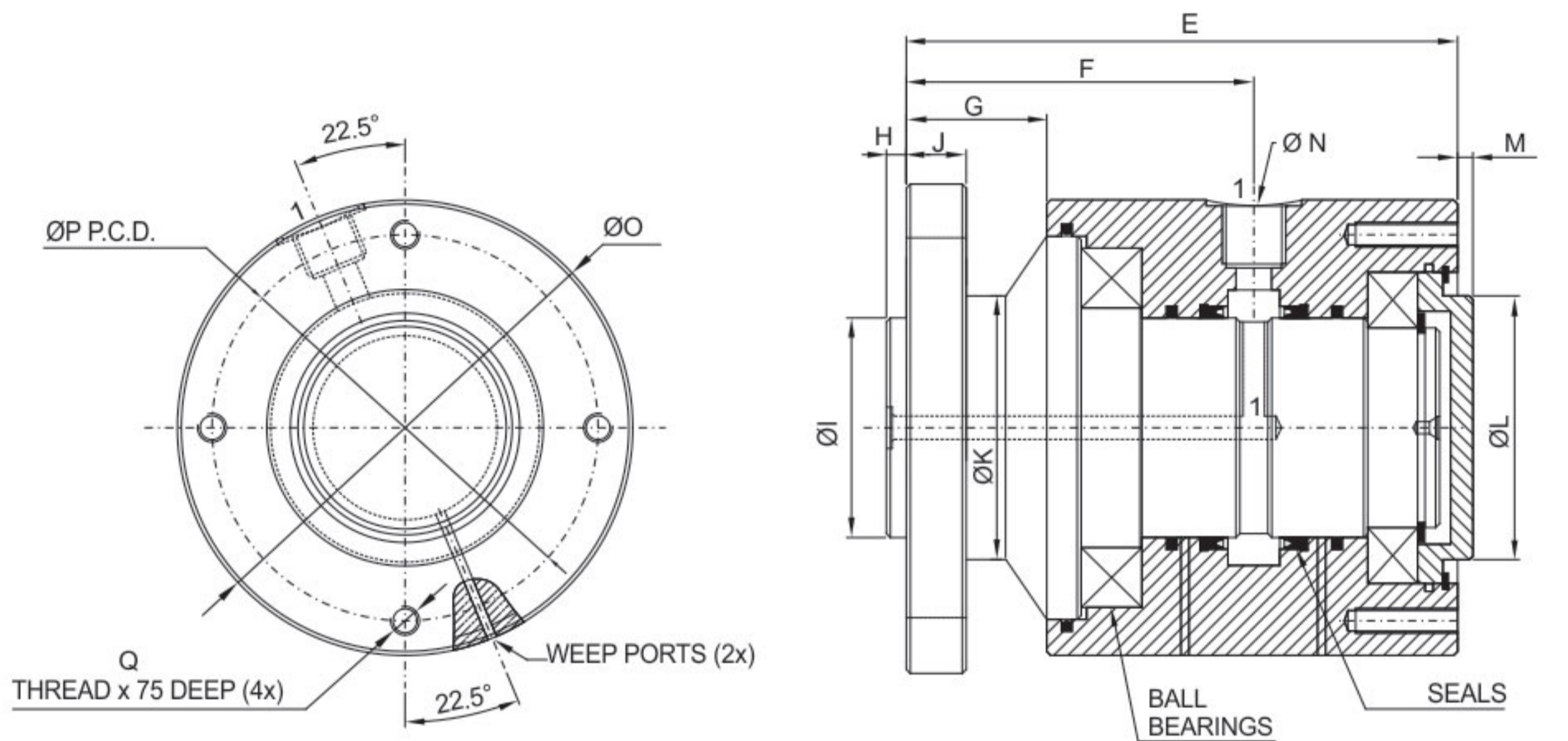
Subject to technical change without notice.

**EXPLODED VIEW OF  
FDHSS TYPE MULTI PASSAGE ROTARY UNIONS**



Subject to technical change without notice.

**HIGH PRESSURE STAINLESS STEEL  
FDHSS 1 PASSAGE ROTARY UNIONS**



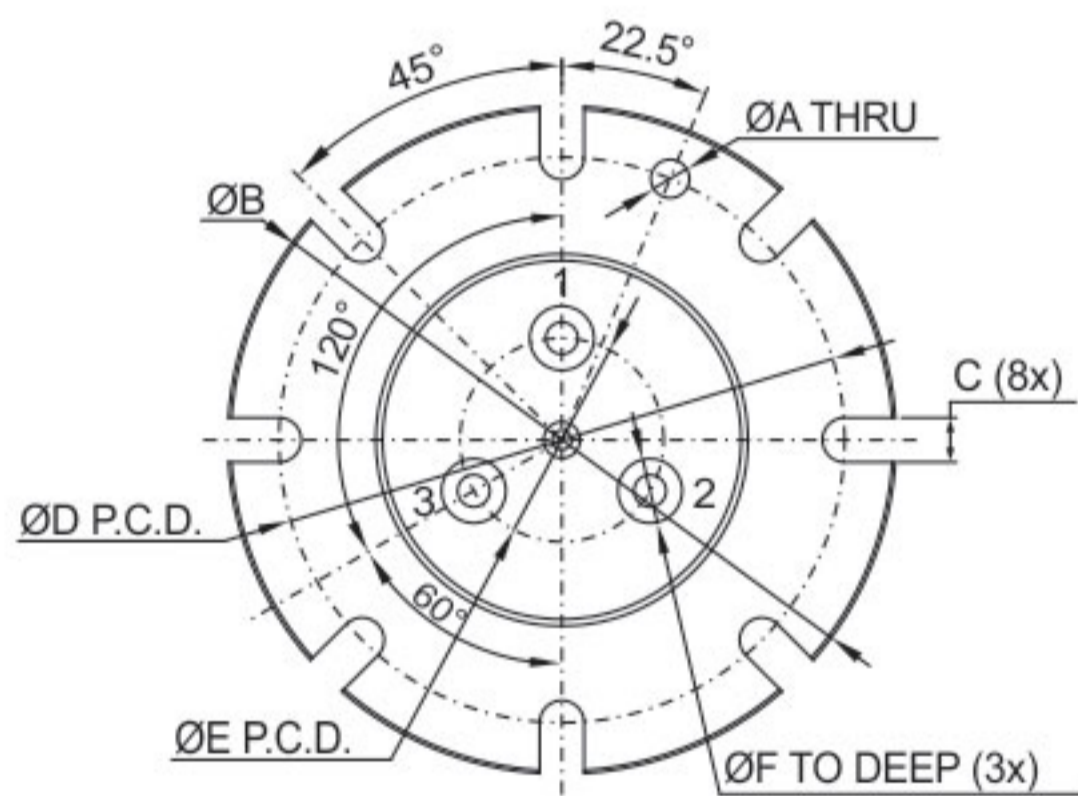
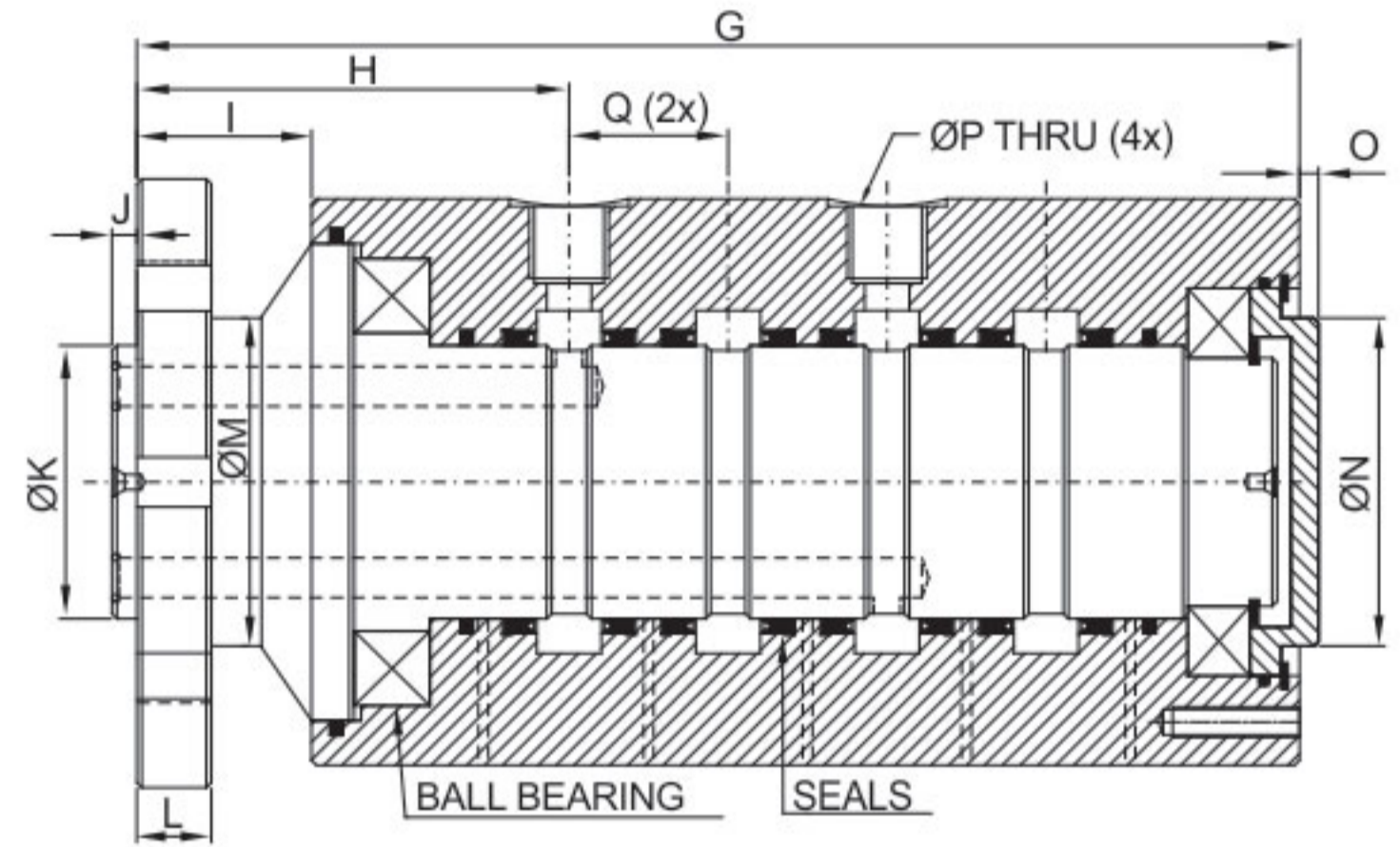
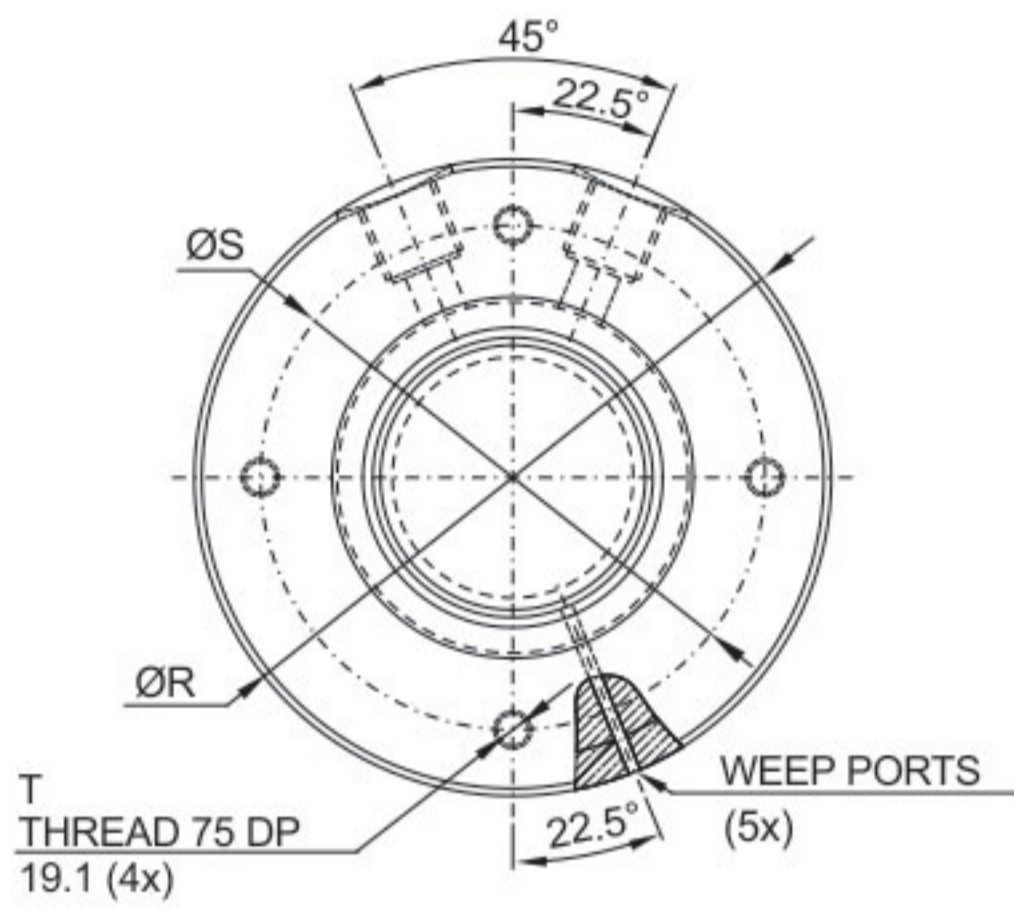
**1 PASSAGE**

**1 PASSAGE / PORT DIMENSION**

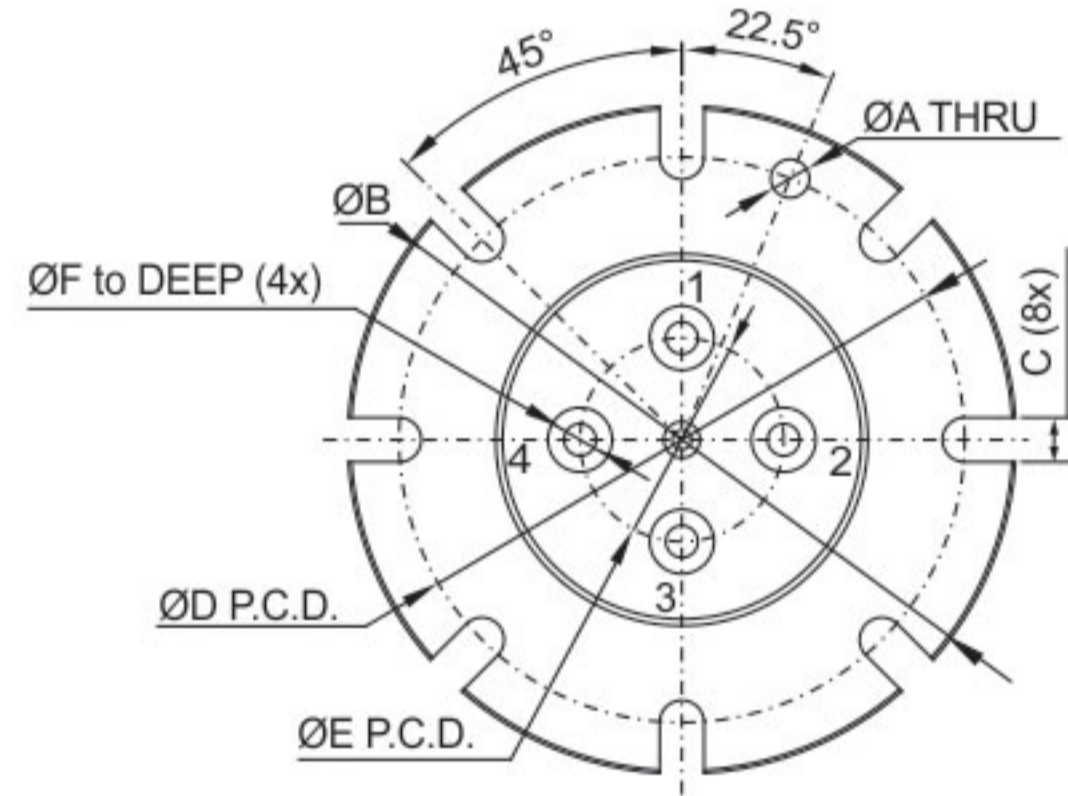
MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
FDHSS-SS-01-05-14 UR	87	9	70	5	129	82	38	4	38.1	12	41	33	1	9/16" - 18 UNF	87	63.5	5/16" - 18 UNC
FDHSS-SS-01-11-14 UR	87	9	70	11	129	82	38	4	38.1	12	41	33	1	3/4" - 14 NPS	113	89	5/16" - 18 UNC

Subject to technical change without notice.

**HIGH PRESSURE STAINLESS STEEL  
FDHSS 3 & 4 PASSAGE ROTARY UNIONS**



**3 PASSAGE**



**4 PASSAGE**

**3 PASSAGE / PORT DIMENSION**

MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
FDHSS-SS-03-05-14 UR	6.5	119	9	100	35	5	193	82	38	4	63.5	12	73	57	3	9/16" - 18 UNF	32	113	89	5/16" - 18 UNC

**4 PASSAGE / PORT DIMENSION**

MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
FDHSS-SS-04-05-14 UR	6.5	119	9	100	35	5	225	82	38	4	63.5	12	73	57	3	9/16" - 18 UNF	32	113	89	5/16" - 18 UNC

Subject to technical change without notice.

**HIGH PRESSURE STAINLESS STEEL  
FDHSS 6 & 8 PASSAGE ROTARY UNIONS**



**DESIGN FEATURES**

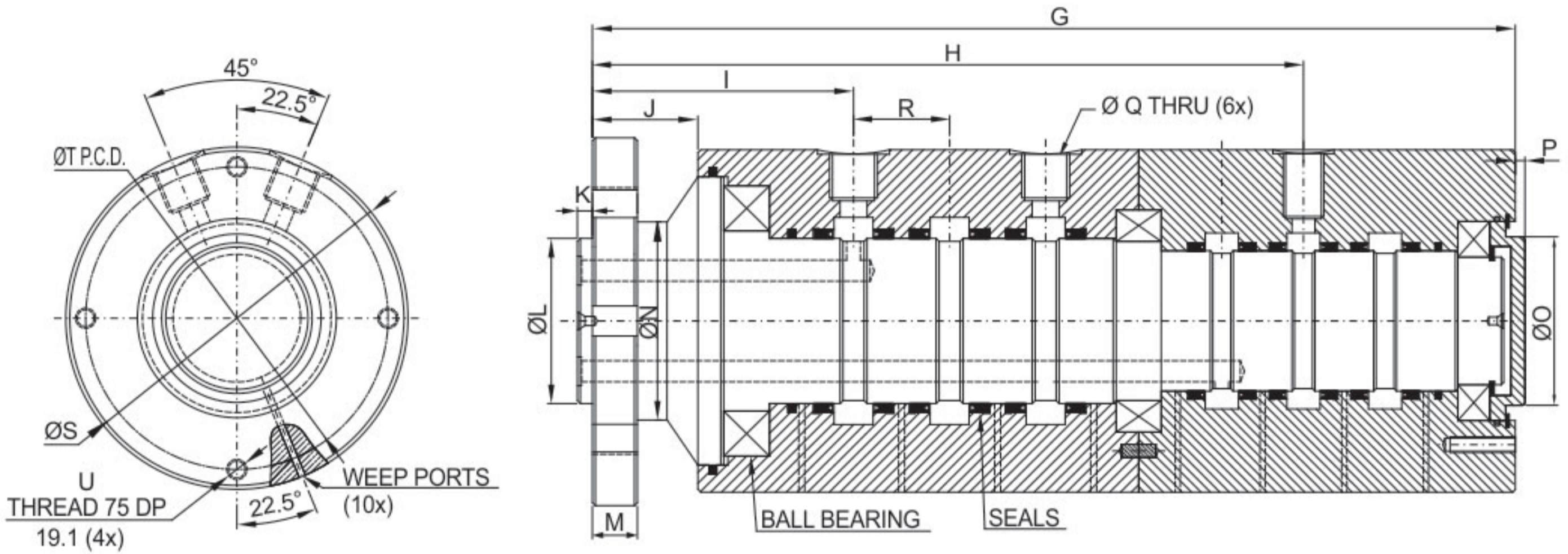
- HIGH PRESSURE REQUIREMENTS UP TO 20,000 PSI.
- COMPLETE STAINLESS STEEL CONSTRUCTION.
- MEDIUM PRESSURE HOUSING CONNECTIONS.
- EXCLUSIVE 'FOURWENTS' SEALING TECHNOLOGY.
- SUITABLE FOR USE IN MARINE / OFF-SHORE ENVIRONMENT.
- O-RING FLANGE MOUNT SHAFT CONNECTIONS.
- MODIFIED OR SPECIALIZE CONFIGURATIONS AVAILABLE.
- HIGHLY PRECISE & QUALITY.
- EXTREMELY LONG SERVICE LIFE.
- **CUSTOMIZED OPTIONS AVAILABLE.**

**FDHSS SERIES**

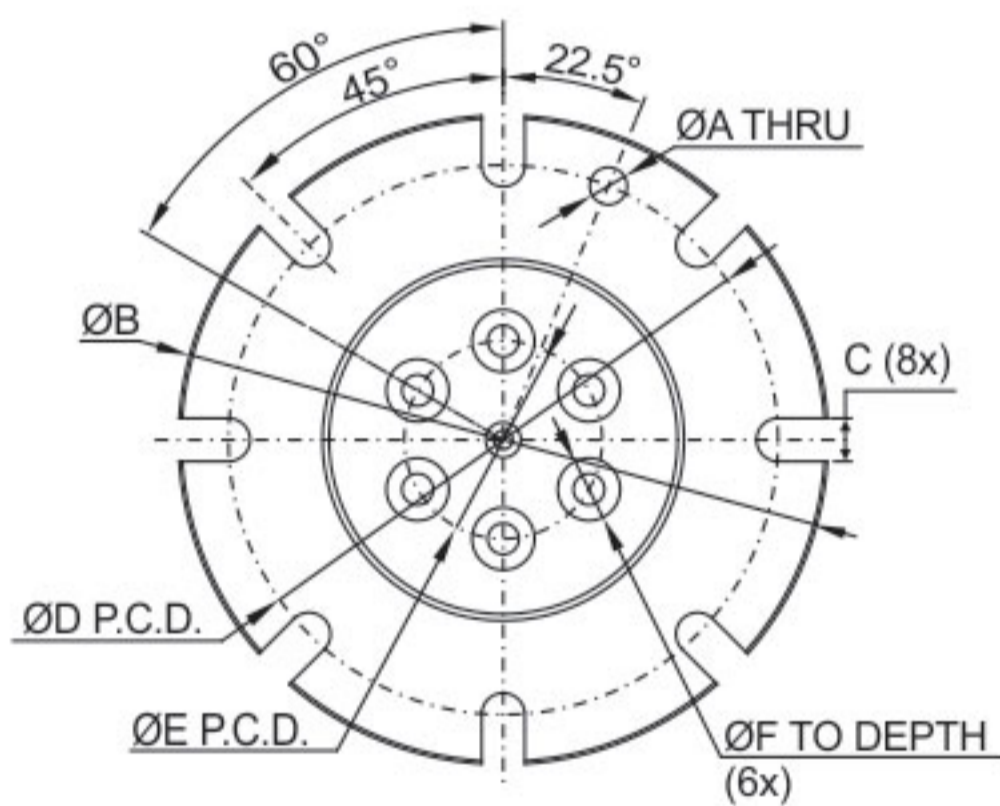
<b>OPERATING DATA</b>		
<b>NO. OF PASSAGE / PORTS / CHANNELS</b>	<b>6</b>	<b>8</b>
<b>MEDIA</b>	AIR/GAS, CHEMICAL, DI / TAP WATER, OIL, WATER / GLYCOL	
<b>PASSAGE SIZE</b>	DIA. 5	
<b>PORT SIZE</b>	9/16" - 18 UNF	
<b>HOUSING MATERIAL</b>	STAINLESS STEEL	
<b>CONNECTION TYPE</b>	MEDIUM PRESSURE TAPPED HOUSING CONNECTIONS & O-RING FLANGE MOUNT SHAFT CONNECTIONS	
<b>MAX. WORKING PRESSURE</b>	20,000 PSI (1375 BAR)	
<b>MAX. TEMPERATURE</b>	250° F	
<b>MAX. SPEED</b>	50 RPM	
<b>MAX. VACUUM</b>	N/A - NOT FOR USE WITH VACUUM	
<b>MOUNTING OPTIONS</b>	THE FDHSS SERIES UNIONS HAVE A UNIQUE SHAFT CONFIGURATION THAT CONSISTS OF INDIVIDUAL FEMALE PASSAGES WITH AN O-RING GLAND AROUND EACH FOR OPTIONAL FLANGE MOUNTING. THERE ARE ALSO TAPPED HOLES ON THE END OF THE HOUSING FOR MOUNTING THE ASSEMBLY	
<b>PLATINGS AND COATINGS</b>	STAINLESS STEEL	
<b>SEAL TYPE</b>	SPRING-ENERGIZED UP SEAL	
<b>SLIP RING OPTIONS</b>	CUSTOM OPTIONS AVAILABLE ., PLEASE CONSULT WITH 'FOURWENTS'	

Subject to technical change without notice.

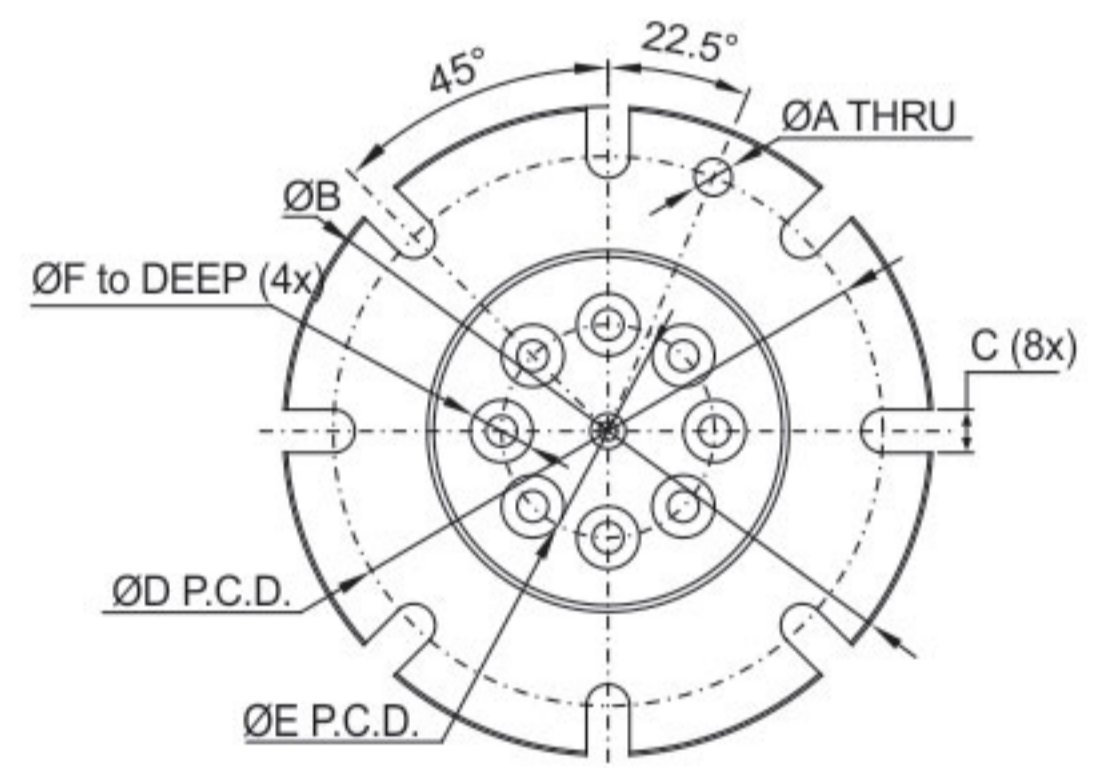
**HIGH PRESSURE STAINLESS STEEL  
FDHSS 6 & 8 PASSAGE ROTARY UNIONS**



**FDHSS SERIES**



**6 PASSAGE**



**8 PASSAGE**

**6 PASSAGE / PORT DIMENSION**

MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
FDHSS-SS-06-05-14 UR	6.5	119	12	100	35	5	310	198	83	38	4	63	12	73	57	3	9/16 - 18 UNF	31	112	88	5/16" - 18 UNC

**8 PASSAGE / PORT DIMENSION**

MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
FDHSS-SS-06-05-14 UR	6.5	119	12	100	35	5	373	230	83	38	4	63.5	12	73	57	3	9/16 - 18 UNF	31	112	88	5/16" - 18 UNC

Subject to technical change without notice.

## HIGH PRESSURE STAINLESS STEEL **FDHSS 12 & 16 PASSAGE ROTARY UNIONS**



**TYPE : FDHSS**  
 SIZES : 9/16"-18 UNF

### DESIGN FEATURES

- HIGH PRESSURE REQUIREMENTS UP TO 20,000 PSI.
- COMPLETE STAINLESS STEEL CONSTRUCTION.
- MEDIUM PRESSURE HOUSING CONNECTIONS.
- EXCLUSIVE 'FOURWENTS' SEALING TECHNOLOGY.
- SUITABLE FOR USE IN MARINE / OFF-SHORE ENVIRONMENT.
- O-RING FLANGE MOUNT SHAFT CONNECTIONS.
- MODIFIED OR SPECIALIZE CONFIGURATIONS AVAILABLE.
- HIGHLY PRECISE & QUALITY.
- EXTREMELY LONG SERVICE LIFE.
- **CUSTOMIZED OPTIONS AVAILABLE.**

### OPERATING DATA

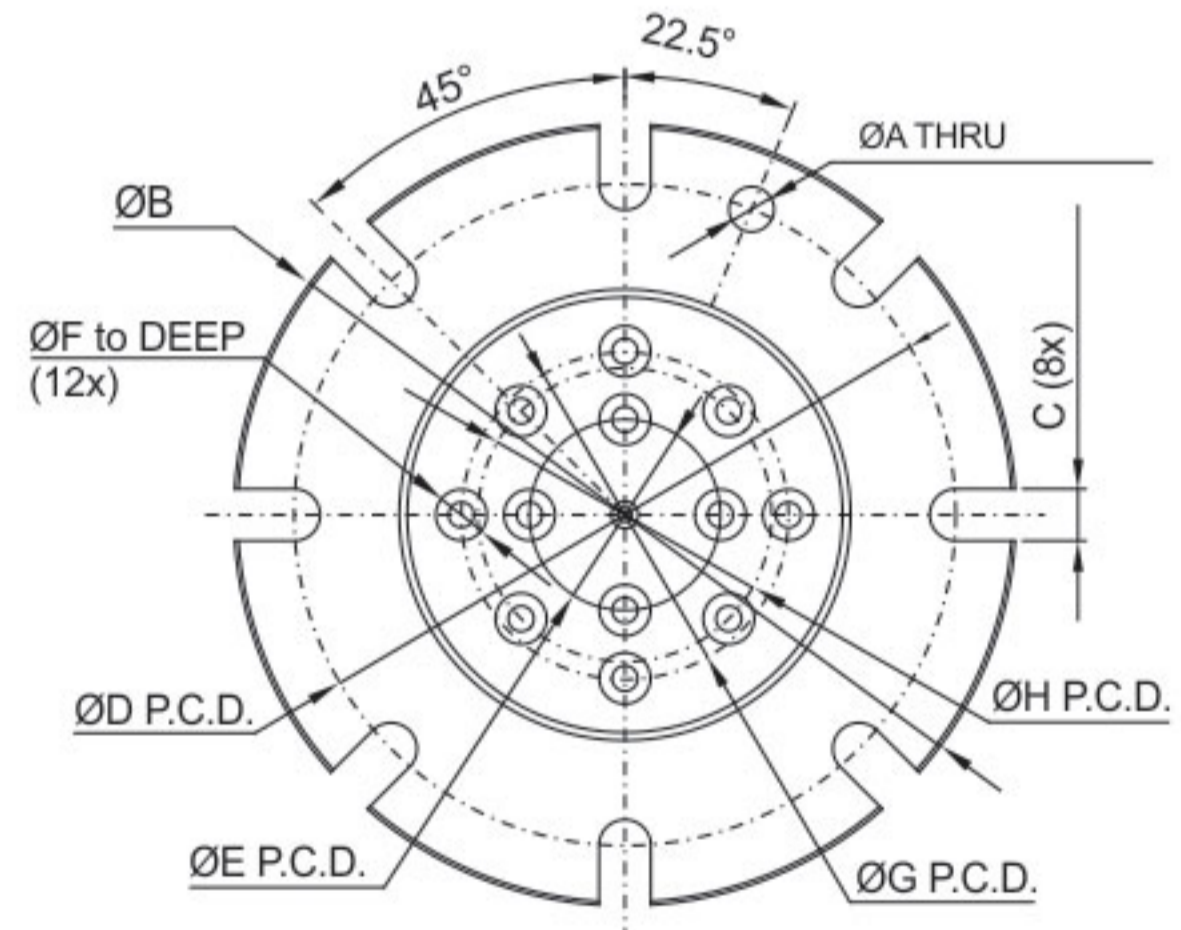
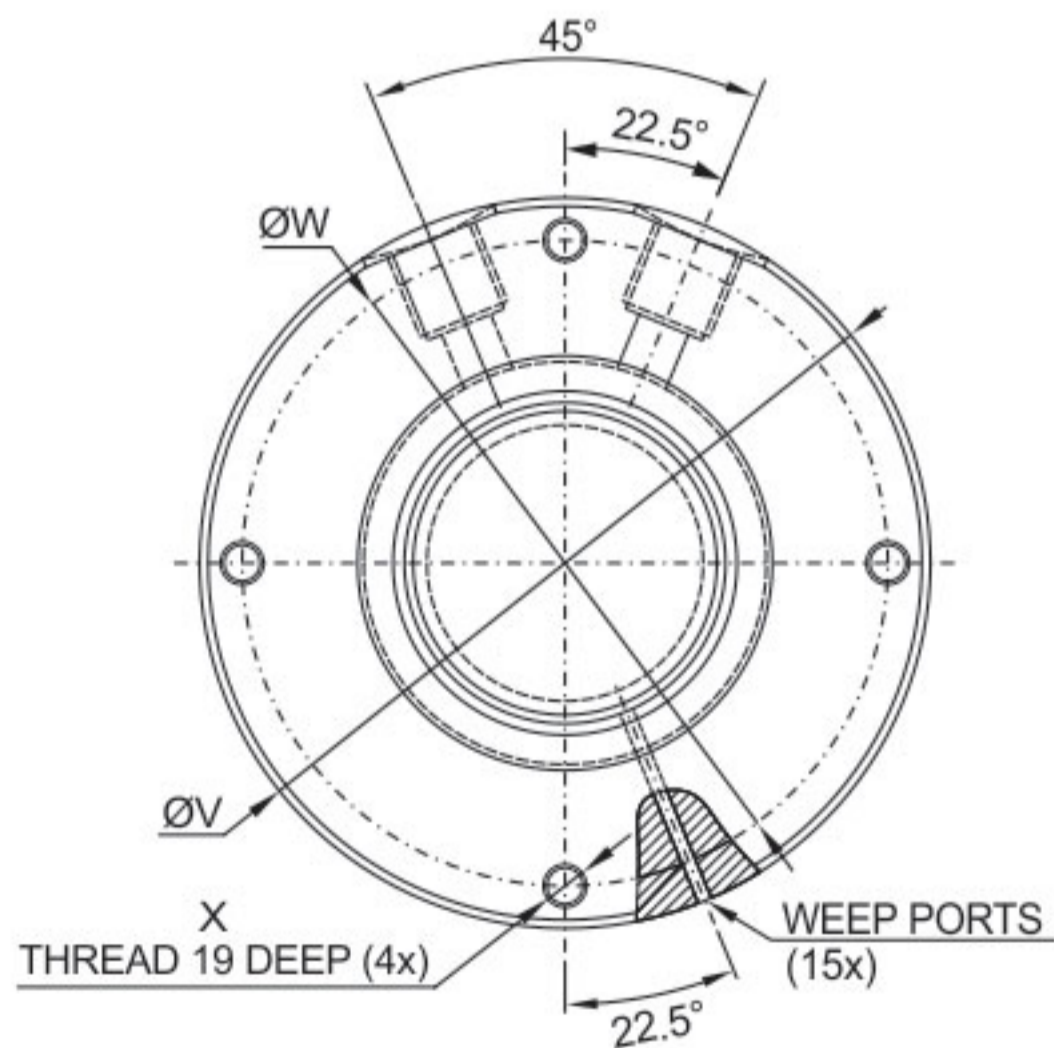
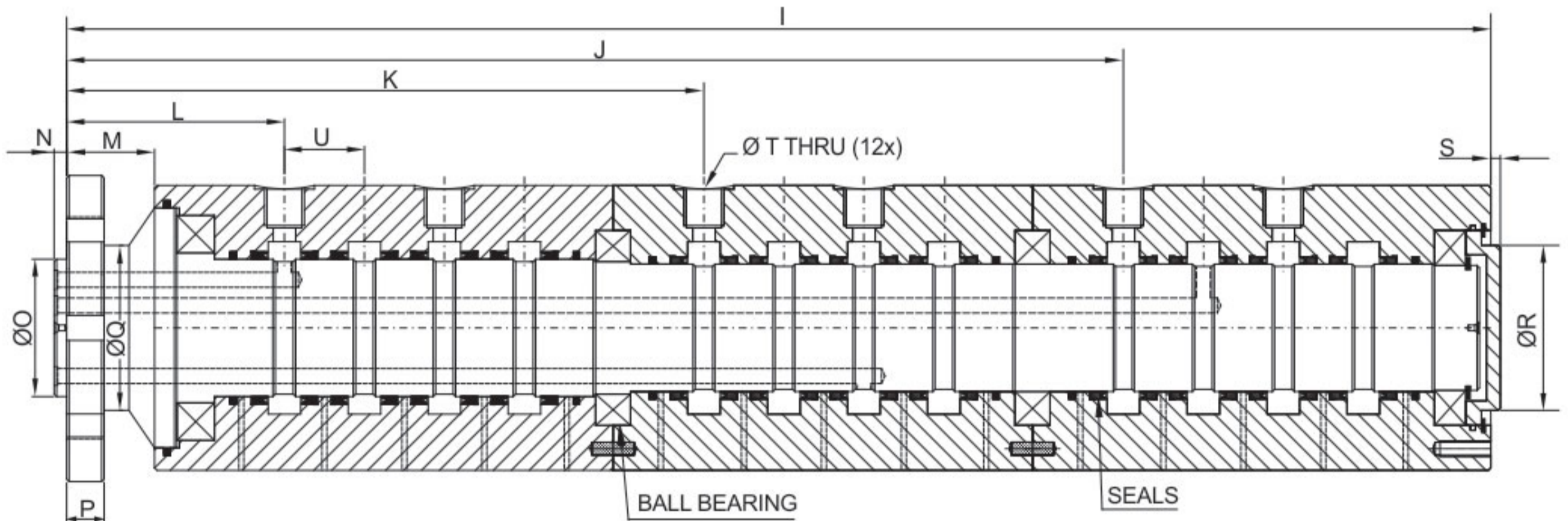
NO. OF PASSAGE / PORTS / CHANNELS	12	16
MEDIA	AIR/GAS, CHEMICAL, DI / TAP WATER, OIL, WATER / GLYCOL	
PASSAGE SIZE	DIA. 5	
PORT SIZE	9/16" - 18 UNF	
HOUSING MATERIAL	STAINLESS STEEL	
CONNECTION TYPE	MEDIUM PRESSURE TAPPED HOUSING CONNECTIONS & O-RING FLANGE MOUNT SHAFT CONNECTIONS	
MAX. WORKING PRESSURE	20,000 PSI (1375 BAR)	
MAX. TEMPERATURE	250° F	
MAX. SPEED	50 RPM	
MAX. VACUUM	N/A - NOT FOR USE WITH VACUUM	
MOUNTING OPTIONS	THE FDHS SERIES UNIONS HAVE A UNIQUE SHAFT CONFIGURATION THAT CONSISTS OF INDIVIDUAL FEMALE PASSAGES WITH AN O-RING GLAND AROUND EACH FOR OPTIONAL FLANGE MOUNTING. THERE ARE ALSO TAPPED HOLES ON THE END OF THE HOUSING FOR MOUNTING THE ASSEMBLY	
PLATINGS AND COATINGS	STAINLESS STEEL	
SEAL TYPE	SPRING-ENERGIZED UP SEAL	
SLIP RING OPTIONS	CUSTOM OPTIONS AVAILABLE ., PLEASE CONSULT WITH 'FOURWENTS'	

Subject to technical change without notice.

*Ideal for New as well as Easy Retrofit Installations...*

**FDHS SERIES**

**HIGH PRESSURE STAINLESS STEEL  
FDHSS 12 PASSAGE ROTARY UNIONS**

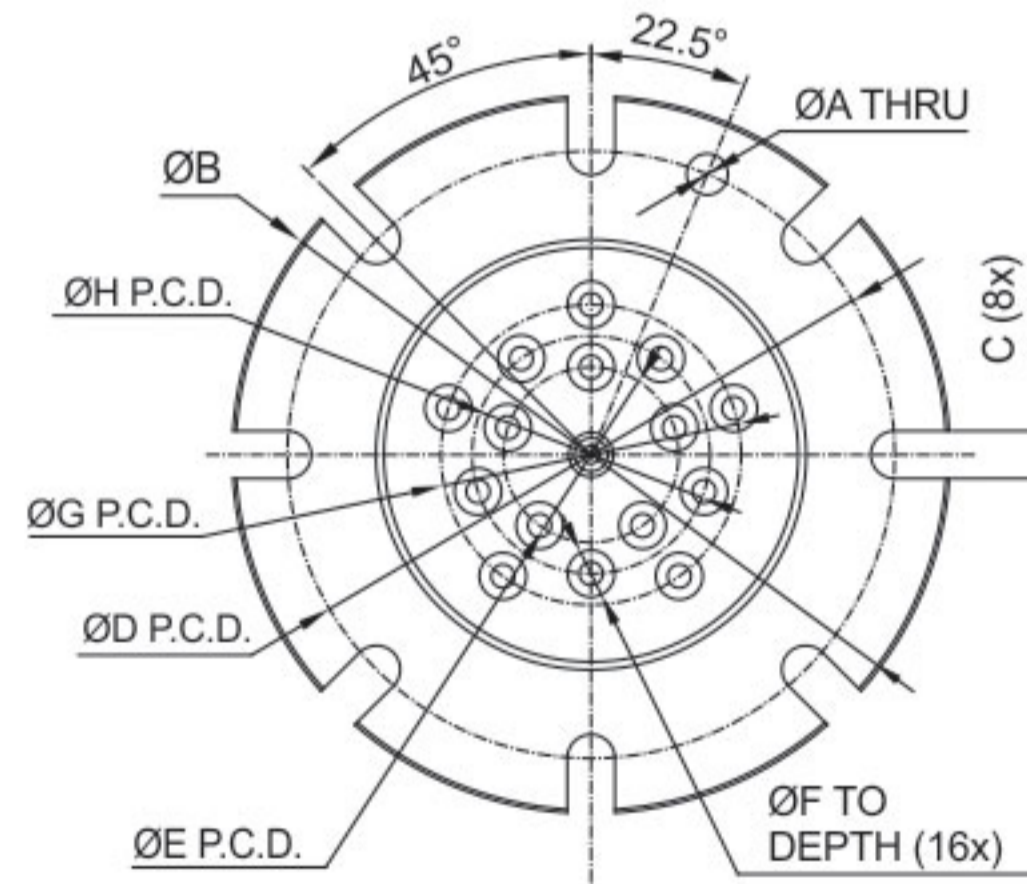
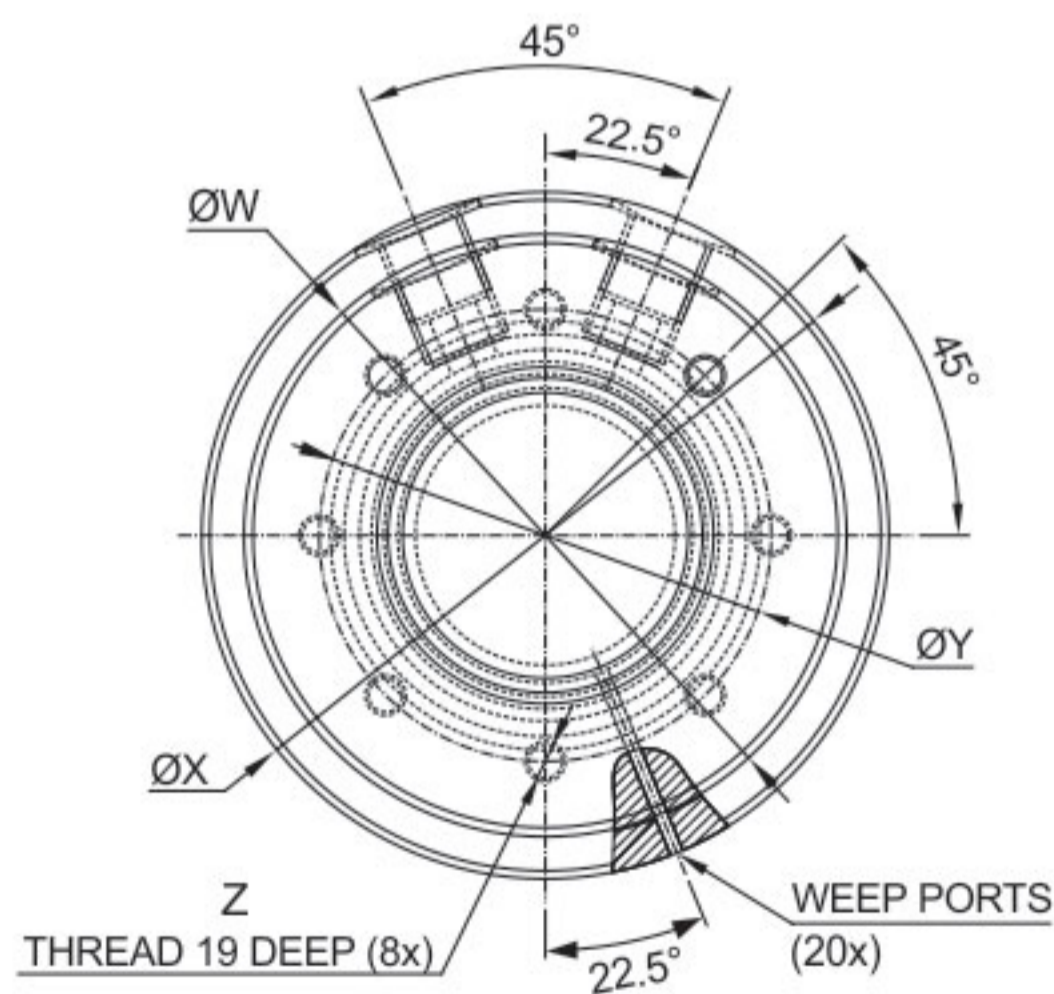
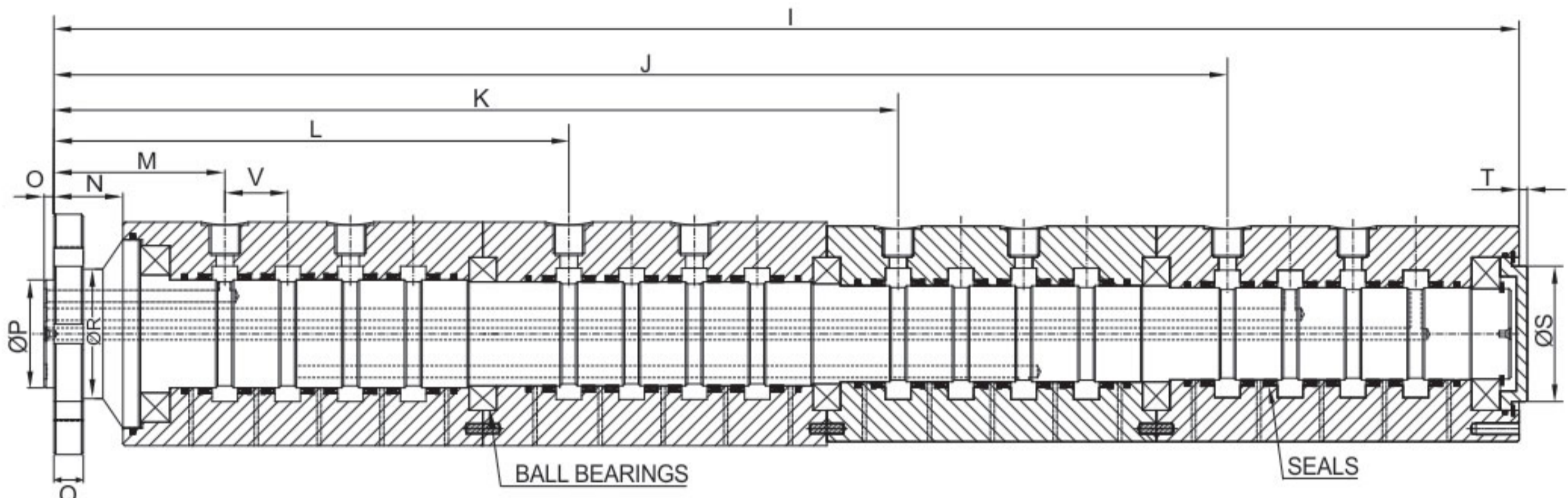


**12 PASSAGE / PORT DIMENSION**

MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
FDHSS-SS 12-05-14 UR	6.5	119	12	100	17.5	5	41.3	35	536	393	239	83	38	4	63.5	12	73	57	3	9/16" - 18 UNF	32	113	89	5/16" - 18 UNC

**FDHSS SERIES**

**HIGH PRESSURE STAINLESS STEEL  
FDHSS 16 PASSAGE ROTARY UNIONS**



**16 PASSAGE / PORT DIMENSION**

MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
FDHSS-SS-16-05-14 UR	6.5	138	13.5	112	26	5	52.5	44.5	716	575	418	260	102	54	4	76.2	16	79	57	3	9/16 - 18 UNF	32	113	125	89	5/16" - 18 UNC

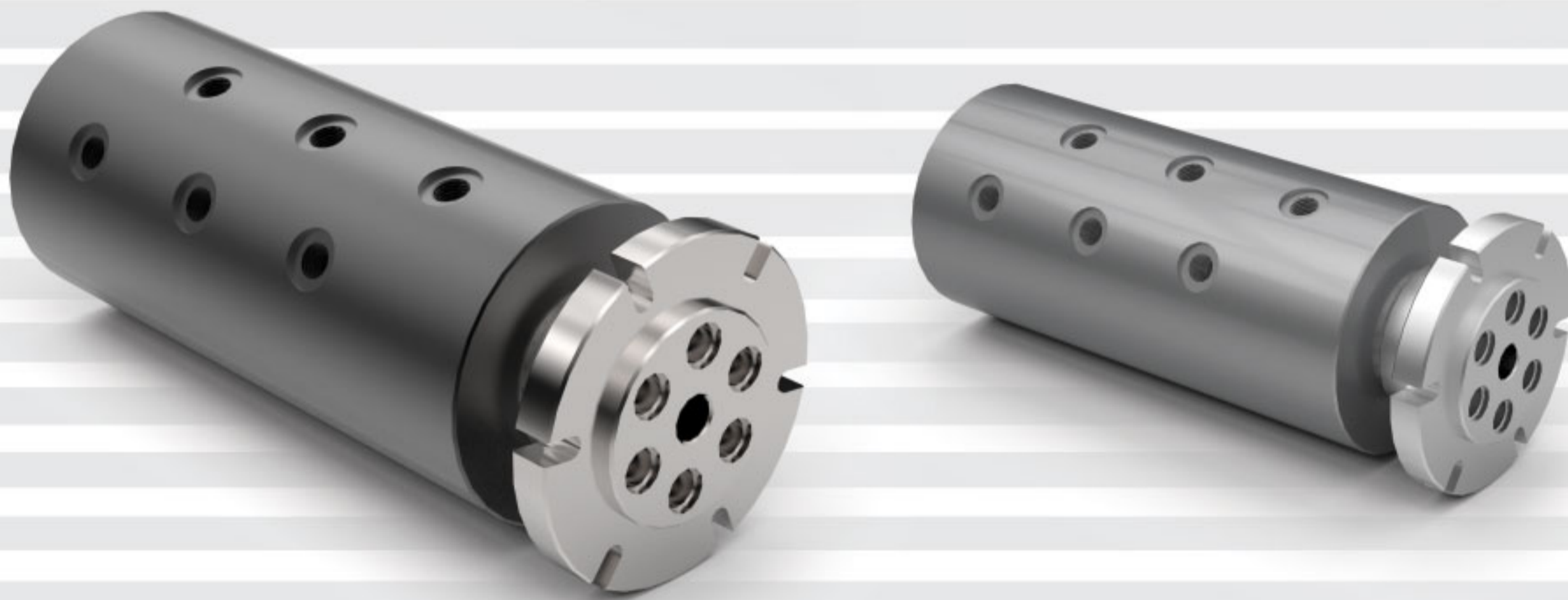
Subject to technical change without notice.

*Ideal for New as well as Easy Retrofit Installations...*

# FDHV SERIES

( FOR HIGH VOLUME AND CORROSION RESISTANT )

MULTI PASSAGE / MULTI PORT / MULTI CHANNEL  
ROTARY UNIONS / ROTARY JOINTS / ROTARY DISTRIBUTORS



FDHV SERIES

**'FOURWENTS'** ROTARY UNIONS ARE ENGINEERED TO ENDURE A WIDE RANGE OF APPLICATIONS FOR A VARIETY OF ENVIRONMENTS & WORKING CONDITIONS.

'FOURWENTS' ROTARY UNIONS OF MULTI PASSAGES / PORTS ARE MOST SUITABLE TO HANDLE DIFFERENT TYPES OF MEDIA LIKE: AIR, COOLANT, WATER, GASES, STEAM & OILS SIMULTANEOUSLY.

**TELL US ABOUT YOUR REQUIREMENTS / APPLICATIONS, SO THAT 'FOURWENTS' CAN MAKE PROPER RECOMMENDATIONS.**

- NO. OF PASSAGES / PORTS / CHANNELS REQUIRED
- MEDIA TO BE HANDLE.
- WORKING PRESSURE.
- WORKING TEMPERATURE.
- MAX. SPEED ( RPM )
- PASSAGE / PORT / CHANNEL SIZE REQUIRED
- CONNECTION TYPE: NPT , BSP, BSPT, 'O' RINGS ETC.
- MOUNTING DIMENSIONS IF SPECIFIC.

Subject to technical change without notice.

**FDHVC 3, 4, 6 & 8 PASSAGE ROTARY UNIONS**

**HIGH VOLUME CORROSION RESISTANT**



**TYPE : FDHVC**  
SIZES : 3/4" TO 1-1/2"

**DESIGN FEATURES**

- SUITABLE FOR VACUUM & BIDIRECTIONAL PRESSURES UP TO 5000 PSI
- HEAVY DUTY ALLOY STEEL CONSTRUCTION.
- ELECTRICAL SLIP RING OPTIONS AVAILABLE.
- LARGE FLOW PASSAGES & INCREASED FLOW VOLUME.
- CORROSION RESISTANT NITRIDE SURFACE TREATMENT.
- PROTECTED BALL BEARING DESIGN SUITABLE FOR HARSH ENVIRONMENT.
- HIGHLY PRECISE & QUALITY.
- EXTREMELY LONG SERVICE LIFE.
- **CUSTOMIZED OPTIONS AVAILABLE.**

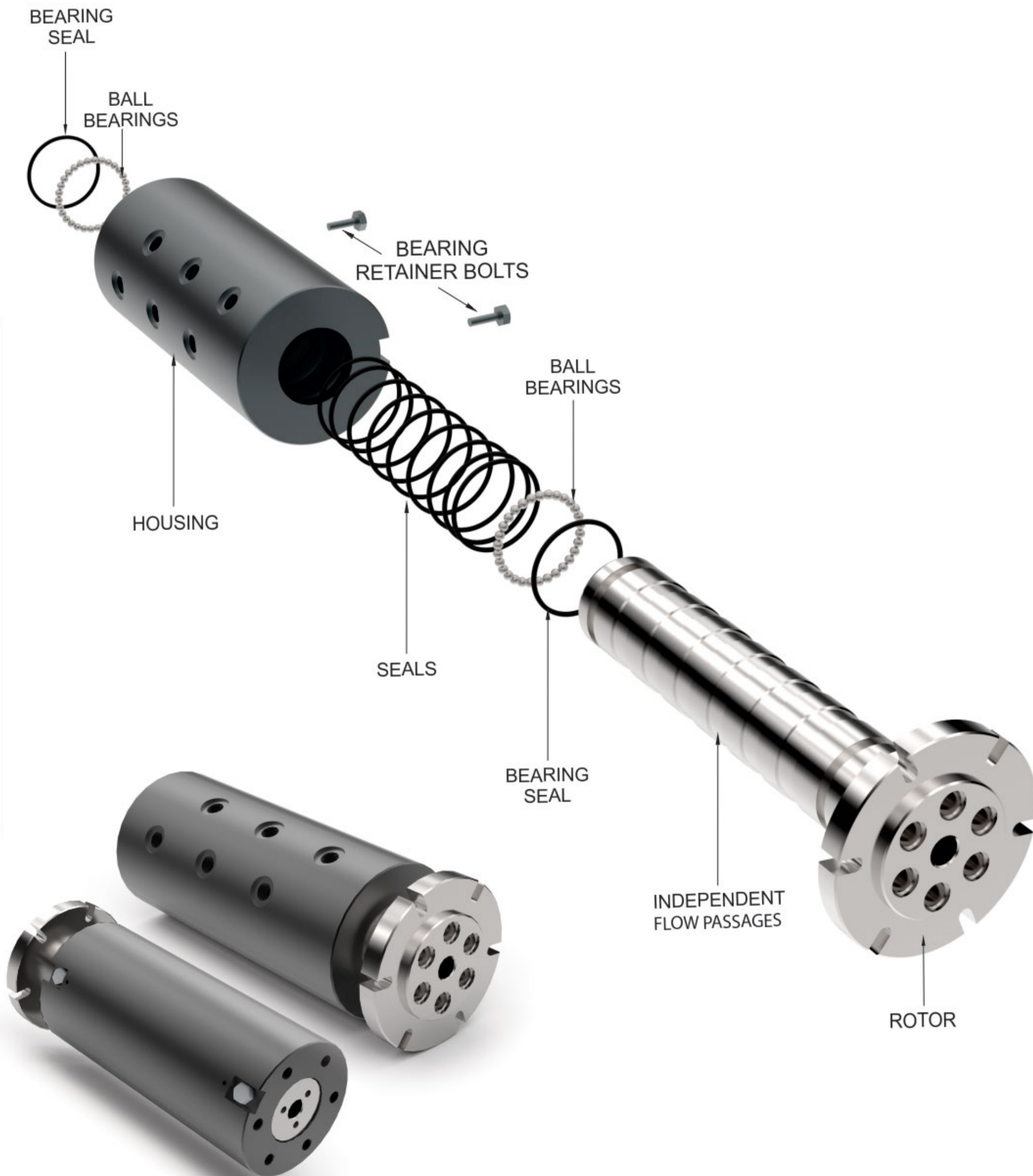
**FDHV SERIES**

**OPERATING DATA**

NO. OF PASSAGE / PORTS / CHANNELS	3	4	6	8
MEDIA	OIL, WATER / GLYCOL, AIR / GAS			
PASSAGE SIZE / PORT SIZE	3/4", 1", 1-1/4", 1-1/2"			
HOUSING MATERIAL	SPL ALLOY STEEL			
CONNECTION TYPE	NPT, BSP, 'O'RING			
MAX. WORKING PRESSURE	5,000 PSI ( 312 BAR )			
MAX. TEMPERATURE	250° F			
MAX. SPEED	50 RPM			
MAX. VACUUM	28 HG			
MOUNTING OPTIONS	TAPPED HOLES ON THE END OF THE HOUSING & BOLTS SLOTS ON THE SHAFT FLANGE			
PLATINGS AND COATINGS	NITRIDE			
SEAL TYPE	AS PER APPLICATION / FILLED PTFE ( STD )			

Subject to technical change without notice.

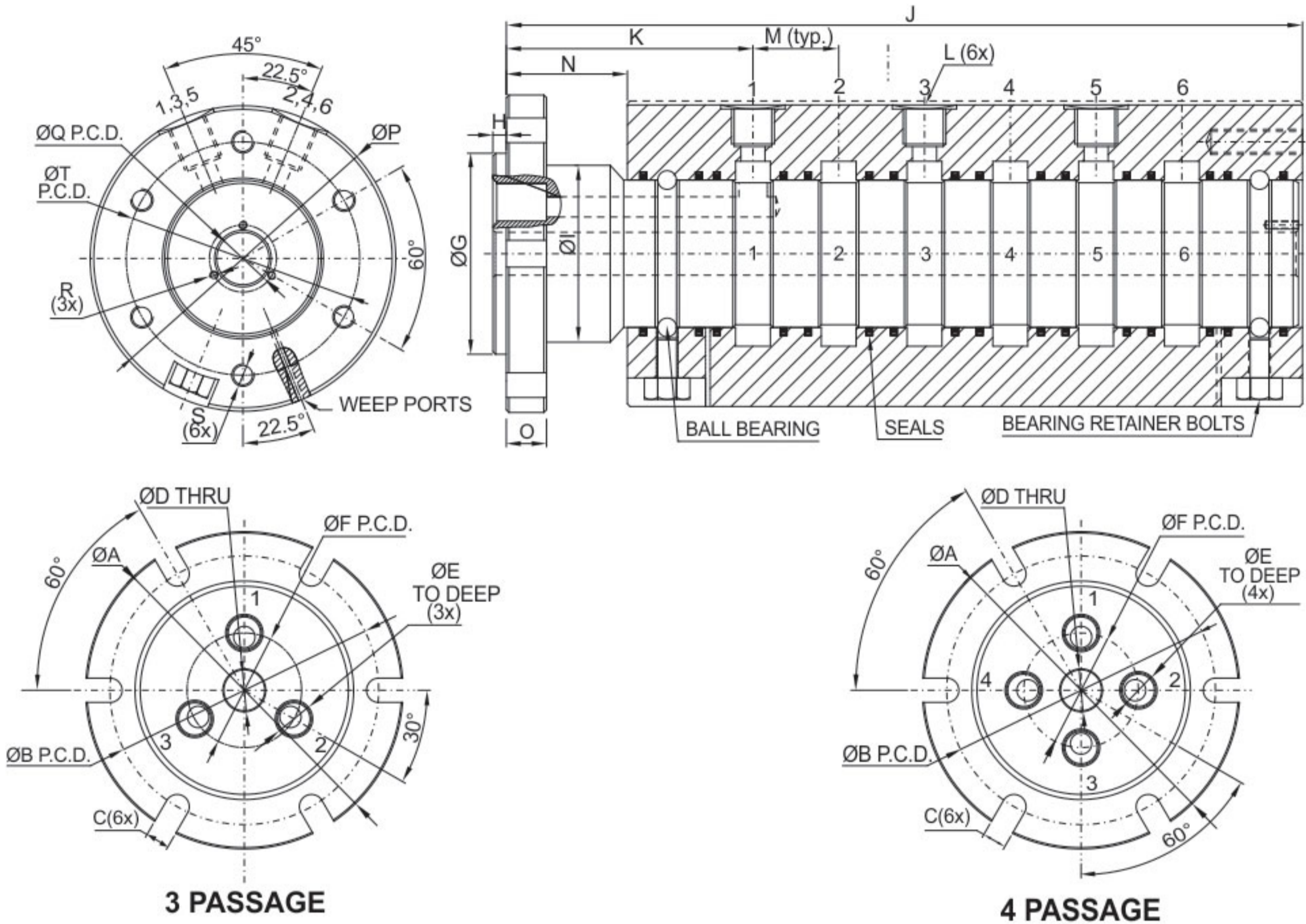
**EXPLODED VIEW OF  
FDHVC TYPE MULTI PASSAGE ROTARY UNIONS**



**FDHV SERIES**

Subject to technical change without notice.

**HIGH VOLUME CORROSION RESISTANT  
FDHVC 3 & 4 PASSAGE ROTARY UNIONS**



**3 PASSAGE**

**4 PASSAGE**

**3 PASSAGE / PORT DIMENSION**

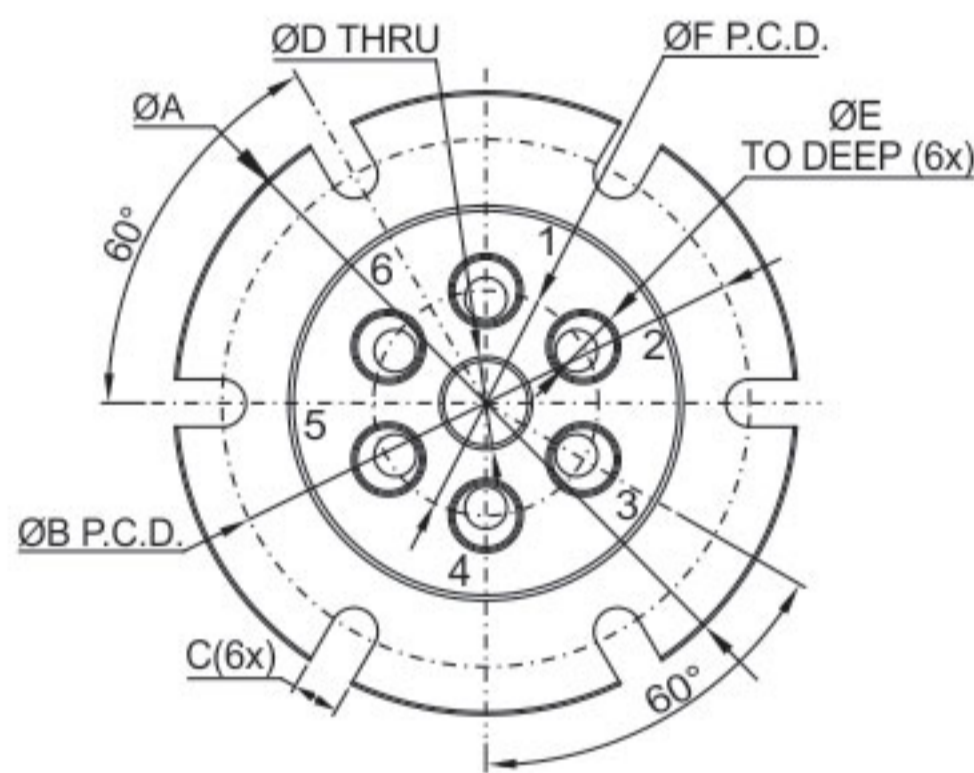
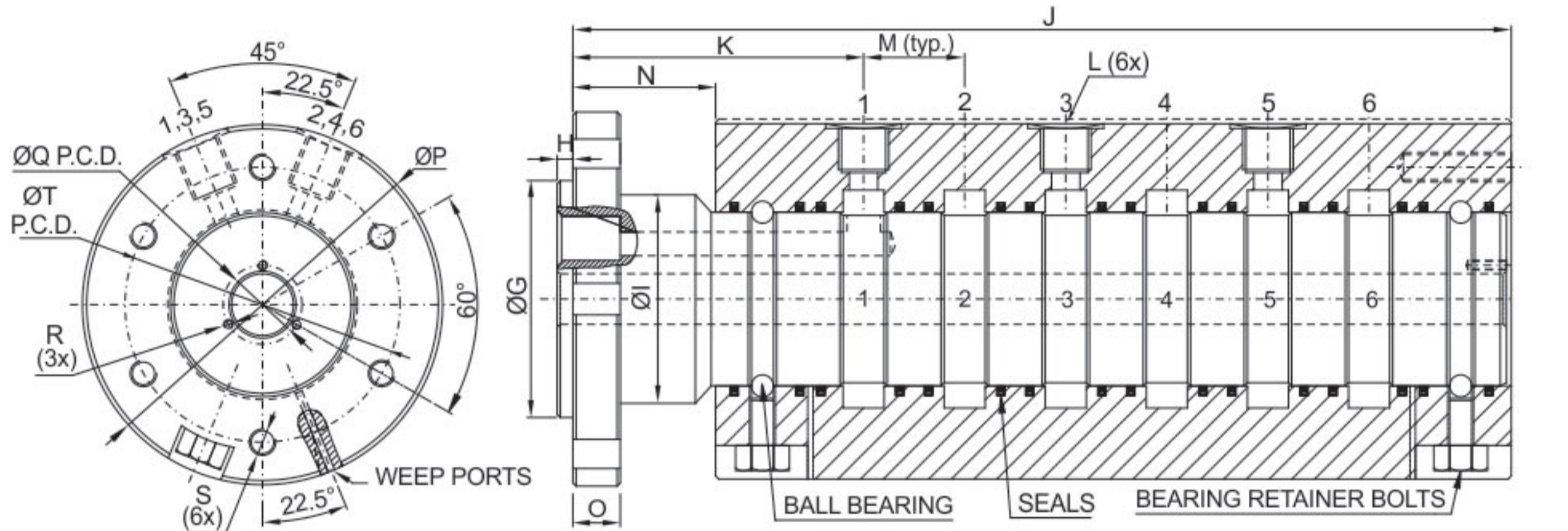
MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
FDHV-AS-03-20N	163	140	13.5	19	3/4" NPT	67	114.3	6.5	108	244	105	3/4" NPT	44	54	16	163	35	M5x0.8	M12x1.75	140
FDHV-AS-03-20B	163	140	13.5	19	3/4" BSP	67	114.3	6.5	108	244	105	3/4" BSP	44	54	16	163	35	M5x0.8	M12x1.75	140
FDHV-AS-03-25N	163	140	13.5	19	1" NPT	70	120.6	6.5	111	263	108	1" NPT	50	54	16	163	35	M5x0.8	M12x1.75	140
FDHV-AS-03-25B	163	140	13.5	19	1" BSP	70	120.6	6.5	111	263	108	1" BSP	50	54	16	163	35	M5x0.8	M12x1.75	140
FDHV-AS-03-32N	188	165	13.5	19	1-1/4" NPT	79.5	139.7	9.5	133	290	115	1-1/4" NPT	58	57	19	188	35	M5x0.8	M12x1.75	165
FDHV-AS-03-32B	188	165	13.5	19	1-1/4" BSP	79.5	139.7	9.5	133	290	115	1-1/4" BSP	58	57	19	188	35	M5x0.8	M12x1.75	165
FDHV-AS-03-40N	227	200	13.5	19	1-1/2" NPT	89	165	9.5	158	315	120	1-1/2" NPT	65	57	19	227	35	M5x0.8	M12x1.75	203
FDHV-AS-03-40B	227	200	13.5	19	1-1/2" BSP	89	165	9.5	158	315	120	1-1/2" BSP	65	57	19	227	35	M5x0.8	M12x1.75	203

**4 PASSAGE / PORT DIMENSION**

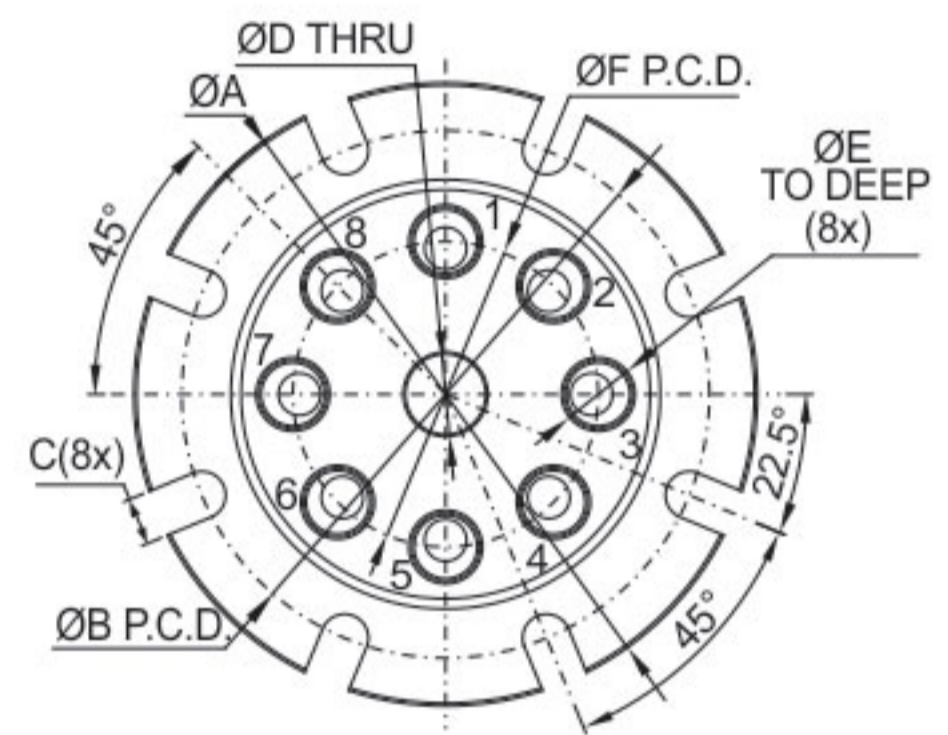
MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
FDHV-AS-04-20N	163	140	13.5	19	3/4" NPT	67	114.3	6.5	108	288	105	3/4" NPT	44	54	16	163	35	M5x0.8	M12x1.75	140
FDHV-AS-04-20B	163	140	13.5	19	3/4" BSP	67	114.3	6.5	108	288	105	3/4" BSP	44	54	16	163	35	M5x0.8	M12x1.75	140
FDHV-AS-04-25N	163	140	13.5	19	1" NPT	70	120.6	6.5	111	314	108	1" NPT	50	54	16	163	35	M5x0.8	M12x1.75	140
FDHV-AS-04-25B	163	140	13.5	19	1" BSP	70	120.6	6.5	111	314	108	1" BSP	50	54	16	163	35	M5x0.8	M12x1.75	140
FDHV-AS-04-32N	188	165	13.5	19	1-1/4" NPT	79.5	139.7	9.5	133	349	115	1-1/4" NPT	58	57	19	188	35	M5x0.8	M12x1.75	165
FDHV-AS-04-32B	188	165	13.5	19	1-1/4" BSP	79.5	139.7	9.5	133	349	115	1-1/4" BSP	58	57	19	188	35	M5x0.8	M12x1.75	165
FDHV-AS-04-40N	227	200	13.5	19	1-1/2" NPT	89	165	9.5	158	379	119	1-1/2" NPT	65	57	19	227	35	M5x0.8	M12x1.75	203
FDHV-AS-04-40B	227	200	13.5	19	1-1/2" BSP	89	165	9.5	158	379	119	1-1/2" BSP	65	57	19	227	35	M5x0.8	M12x1.75	203

Subject to technical change without notice.

**HIGH VOLUME CORROSION RESISTANT  
FDHVC 6 & 8 PASSAGE ROTARY UNIONS**



**6 PASSAGE**



**8 PASSAGE**

**6 PASSAGE / PORT DIMENSION**

MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
FDHV-AS-06-20N	176	152	13.5	25	3/4" NPT	82.5	127	6.5	120	376	105	3/4" NPT	44	54	16	163	35	M5x0.8	M12x1.75	140
FDHV-AS-06-20B	176	152	13.5	25	3/4" BSP	82.5	127	6.5	120	376	105	3/4" BSP	44	54	16	163	35	M5x0.8	M12x1.75	140
FDHV-AS-06-25N	188	165	13.5	25	1" NPT	95	146	6.5	136	414	108	1" NPT	50	54	16	188	35	M5x0.8	M12x1.75	165
FDHV-AS-06-25B	188	165	13.5	25	1" BSP	95	146	6.5	136	414	108	1" BSP	50	54	16	188	35	M5x0.8	M12x1.75	165
FDHV-AS-06-32N	227	200	13.5	25	1-1/4" NPT	114.5	174.6	9.5	171	475	117	1-1/4" NPT	60	57	19	227	35	M5x0.8	M12x1.75	203
FDHV-AS-06-32B	227	200	13.5	25	1-1/4" BSP	114.5	174.6	9.5	171	475	117	1-1/4" BSP	60	57	19	227	35	M5x0.8	M12x1.75	203
FDHV-AS-06-40N	278	241	17.5	25	1-1/2" NPT	133.5	203.2	9.5	196	512	120	1-1/2" NPT	65	57	19	278	35	M5x0.8	M12x1.75	247.5
FDHV-AS-06-40B	278	241	17.5	25	1-1/2" BSP	133.5	203.2	9.5	196	512	120	1-1/2" BSP	65	57	19	278	35	M5x0.8	M12x1.75	247.5

**8 PASSAGE / PORT DIMENSION**

MODEL NO	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
FDHV-AS-08-20N	227	200	13.5	25	3/4" NPT	120.5	174.6	9.5	171	480	110	3/4" NPT	45	57	19	227	35	M5x0.8	M12x1.75	203
FDHV-AS-08-20B	227	200	13.5	25	3/4" BSP	120.5	174.6	9.5	171	480	110	3/4" BSP	45	57	19	227	35	M5x0.8	M12x1.75	203
FDHV-AS-08-25N	227	200	13.5	25	1" NPT	127	177.8	9.5	171	531	113	1" NPT	52	57	19	227	35	M5x0.8	M12x1.75	203
FDHV-AS-08-25B	227	200	13.5	25	1" BSP	127	177.8	9.5	171	531	113	1" BSP	52	57	19	227	35	M5x0.8	M12x1.75	203
FDHV-AS-08-32N	314	273	17.5	25	1-1/4" NPT	165	234.9	9.5	228	531	117	1-1/4" NPT	60	57	19	314	35	M5x0.8	M16x1.5	279.5
FDHV-AS-08-32B	314	273	17.5	25	1-1/4" BSP	165	234.9	9.5	228	531	117	1-1/4" BSP	60	57	19	314	35	M5x0.8	M16x1.5	279.5
FDHV-AS-08-40N	314	273	17.5	25	1-1/2" NPT	165	234.9	9.5	228	644	120	1-1/2" NPT	66	57	19	314	35	M5x0.8	M16x1.5	279.5
FDHV-AS-08-40B	314	273	17.5	25	1-1/2" BSP	165	234.9	9.5	228	644	120	1-1/2" BSP	66	57	19	314	35	M5x0.8	M16x1.5	279.5

Subject to technical change without notice.

## MULTI PASSAGE AIR HYDRAULIC ROTARY UNIONS

### 2 TO 10 PASSAGE DESIGN

**TYPE : FMMP** HAVE BEEN PROVIDING THE EFFICIENT TRANSFER OF AIR, HYDRAULIC OIL, WATER, GASES AND VACUUM INTO ROTATING ASSEMBLIES. 'FOURWENTS' ROTARY UNIONS HAVE BEEN USED ON ALL TYPES OF MACHINERY IN A VARIETY OF APPLICATIONS.

ALL 'FOURWENTS' ROTARY UNIONS ARE PRODUCED FROM THE HIGHEST QUALITY OF MATERIALS AND ARE TESTED BEFORE SHIPMENT TO HELP INSURE LONG TROUBLE-FREE PERFORMANCE.

WHATEVER YOUR ROTARY UNIONS REQUIREMENTS....

'FOURWENTS' OFFERS AND STOCKS THE WIDE VARIETY OF ROTARY UNIONS DESCRIBED IN THIS CATALOGUE. SINGLE AND MULTI PASSAGE TYPES, COMBINED WITH A VARIETY OF SIZES AND DESIGNS, PROVIDE THE VERSATILITY NEEDED TO HANDLE MOST REQUIREMENTS.



**MULTI PASSAGE ROTARY UNION TYPE 'FMMP'  
DESIGNED FOR LONG SERVICE LIFE.**

#### DESIGN FEATURES

- SELF SUPPORTED ROTARY UNION.
- MULTI MEDIA CAN BE TRANSFERRED THROUGH 2 TO 10 PASSAGE DESIGN.
- FLANGED MOUNTED DESIGNED MAIN ROTOR.
- INBUILT DOUBLE BALL BEARINGS DESIGN FOR LONG TROUBLE FREE SERVICE LIFE.
- MAIN ROTOR MADE OF STAINLESS STEEL AND AT SEALING AREAS HARDENED OR WITH METAL CERAMICS.
- FLANGE OF THE ROTOR CAN BE TAILOR-MADE ON REQUEST.
- SPECIALLY DESIGNED RADIAL SHAFT SEALING & SEALING DESIGN TO BE SELECTED ACCORDING TO REQUIRED MEDIA & SERVICE CONDITIONS.
- MAIN BODY / HOUSING MADE OUT FROM BRASS, STEEL OR ALUMINIUM ALLOY AS PER APPLICATION DATA.
- ONE OR TWO THREADED HOLES IN THE HOUSING PROVIDED FOR ANTI-ROTATION.
- FOR MULTI-MEDIA APPLICATIONS DOUBLE SEALS AND DRAIN HOLES ARE PROVIDED TO PREVENT CROSS CONTAMINATION OF FLUIDS.
- THREADED CONNECTIONS ARE GENERALLY G/BSP ( ISO:228 ) AND OTHER TYPES OF THREADS AVAILABLE ON REQUEST.
- **DIRECTLY INTERCHANGEABLE WITH ANY OEM SELF SUPPORTED ROTARY UNION.**

#### OPERATING DATA

PRESSURE PN MAX BAR *:	OIL: 200 GAS / AIR / WATER: 10
SPEED MAX* MIN-1*:	250 RPM
MEDIA:	OIL / WATER / AIR / GAS / VACUUM
PASSAGES:	2 TO 10
NOMINAL DIAMETER DN MM:	G1/4" TO G1"
HOUSING MATERIAL:	STEEL / ALUMINIUM / BRASS
TEMPERATURE MAX °C :	175° F (80° C)
THREADS:	G / BSP ( ISO 228 )
CUSTOM MADE:	ON REQUEST

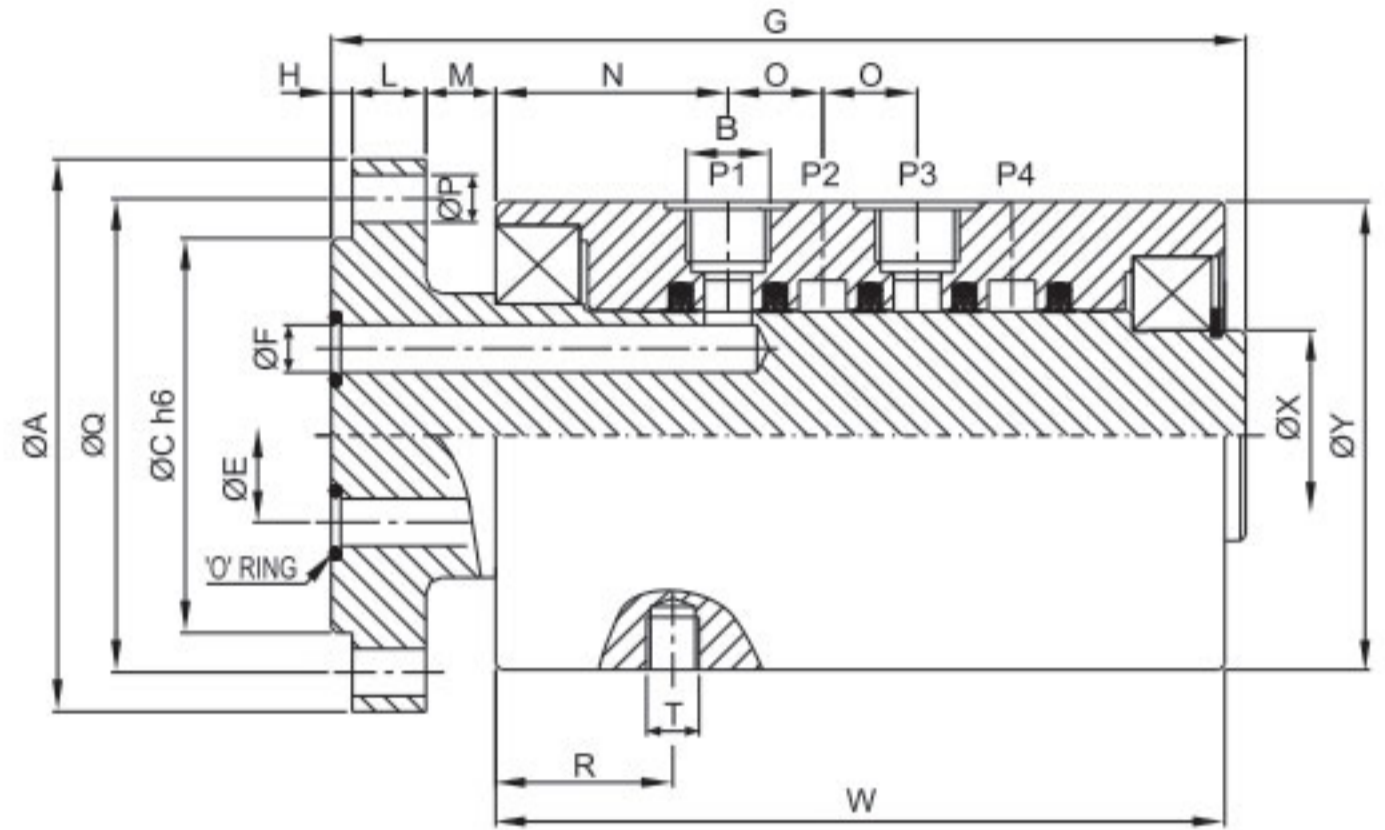
Subject to technical change without notice.

*Ideal for New as well as Easy Retrofit Installations...*

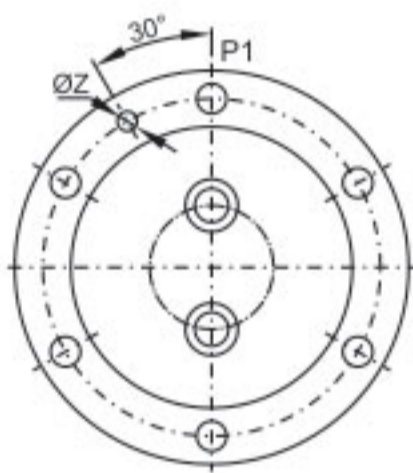
**MULTI PASSAGE AIR HYDRAULIC ROTARY UNIONS**



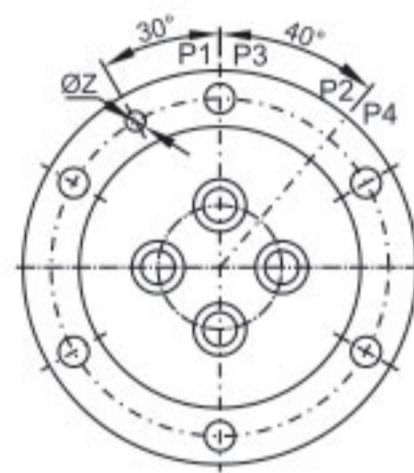
**2 TO 10 PASSAGE DESIGN**  
SIZES: 1/4" TO 1"



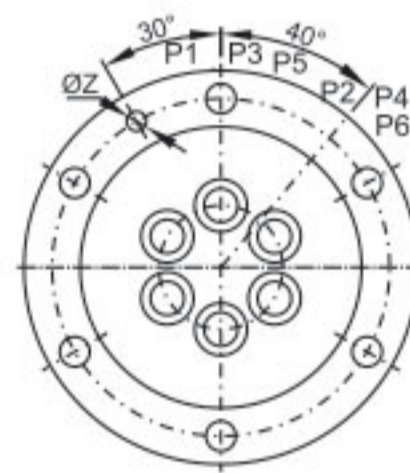
**AHS-MP SERIES**



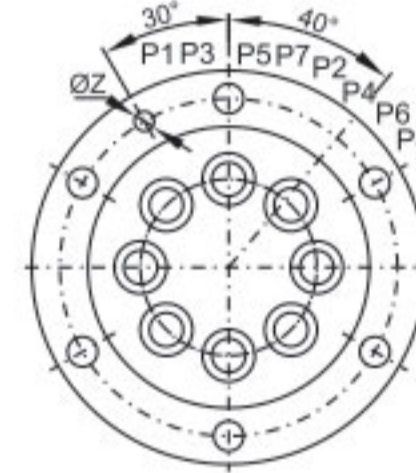
2 Passages



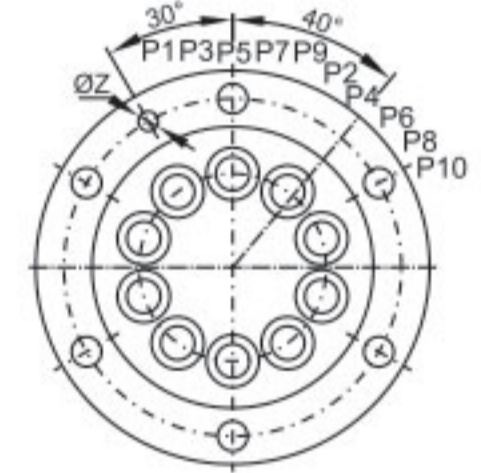
4 Passages



6 Passages



8 Passages



10 Passages

FOURWENTS ORDERING NO.	B PORT	ØA	ØC h6	ØE	ØF	G	H	L	M	N	O	ØP	Q	R	T	W	ØX	ØY	ØZ
FDFM-02-06B	G 1/4"	78	45	15	6	148	5	8	21	40	26	Ø7x6	62	30	M10	112	25	80	4.5
FDFM-04-06B	G 1/4"	78	45	26	6	177	5	8	21	40	20.5	Ø7x6	62	37	M10	140	35	90	4.5
FDFM-06-06B	G 1/4"	78	45	26	6	217	5	8	21	40	20.5	Ø7x6	62	37	M10	180	35	90	4.5
FDFM-08-06B	G 1/4"	98	60	42	6	274	5	10	21	40	21.5	Ø7x6	80	39	M10	235	50	105	4.5
FDFM-10-06B	G 1/4"	98	60	42	6	315	5	10	21	40	21.5	Ø7x6	80	39	M10	276	50	105	4.5
FDFM-02-10B	G 3/8"	78	45	20	9	159	5	8	21	45	29	Ø7x6	62	30	M10	122	35	94	4.5
FDFM-04-10B	G 3/8"	110	60	24.5	9	211	5	10	28	45	26	Ø7x6	90	39	M10	165	40	94	6.5
FDFM-06-10B	G 3/8"	98	65	40	9	268	5	10	28	45	26	Ø9x6	82	41	M10	222	55	108	6.5
FDFM-08-10B	G 3/8"	115	75	53	9	345	5	12	33	45	28	Ø9x6	95	44	M10	292	65	124	6.5
FDFM-10-10B	G 3/8"	125	85	63	9	407	5	12	33	50	28	Ø9x6	105	46	M10	354	75	140	6.5
FDFM-02-15B	G 1/2"	98	60	23	12	171	5	10	23	50	32	Ø7x6	80	37	M10	130	40	105	4.5
FDFM-04-15B	G 1/2"	130	75	29	12	244	5	12	32	50	31.5	Ø9x6	110	42	M12	192	50	108	10.5
FDFM-06-15B	G 1/2"	125	75	48	12	322	5	14	40	50	31.5	Ø13x6	100	44	M12	260	65	124	10.5
FDFM-08-15B	G 1/2"	148	95	66	12	404	5	16	45	50	31.5	Ø13x6	122	48	M12	335	85	155	10.5
FDFM-10-15B	G 1/2"	158	105	76	12	469	5	16	45	55	31.5	Ø13x6	132	50	M12	400	95	174	10.5
FDFM-02-20B	G 3/4"	115	65	28	18	205	5	12	35	55	38	Ø9x6	95	40	M12	150	55	124	6.5
FDFM-04-20B	G 3/4"	138	85	52	18	296	5	16	45	55	38	Ø13x6	111	46	M12	227	75	144	10.5
FDFM-06-20B	G 3/4"	148	95	60	18	377	5	16	45	55	38	Ø13x6	121	48	M12	308	85	158	10.5
FDFM-08-20B	G 3/4"	168	115	80	18	463	5	16	45	60	38	Ø13x6	141	52	M12	394	105	198	10.5
FDFM-02-25B	G 1"	115	75	34	22	208	5	12	28	60	42	Ø9x6	95	44	M12	160	65	144	6.5
FDFM-04-25B	G 1"	168	105	66	22	380	5	20	55	65	52	Ø17x6	138	54	M16	297	95	174	10.5

Subject to technical change without notice.

**8 & 10 PASSAGE ROTARY UNIONS**

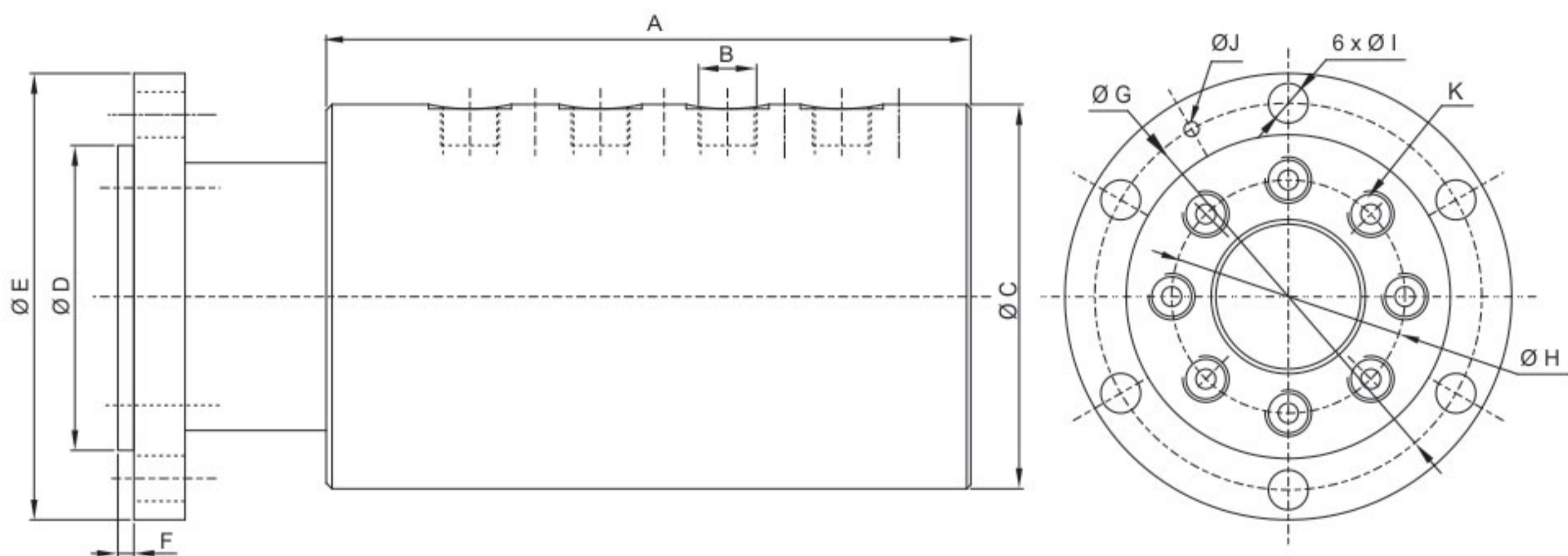


**DESIGN FEATURES**

- BALL BEARING SUPPORTED DESIGN.
- FLANGE TYPE.
- MAIN BODY / HOUSING OF BRASS OR ALUMINIUM MATERIAL.
- MAIN ROTOR MADE OUT FROM STAINLESS STEEL WITH ELECTRO LESS PLATING.
- INBUILT WITH ADVANCED SEALING SYSTEM.

**OPERATING DATA**

MAX. WATER PRESSURE	150 PSI / 10 BAR
MIN. TEMPERATURE	175° F
MAX. SPEED	250 RPM



MULTI PASSAGE / PORT	"FOURWENTS" ORDERING NO.	B PORT	A	C	D	E	F	G (P.C.D.)	H (P.C.D.)	I (HOLE)	K	Ø J
	FDFM-08-06B-SPL	G 1/4"	271	124	Ø 75h6	Ø 98	5	Ø 90	Ø 55	Ø 7	G 1/4"	Ø 4.5
	FDFM-10-06B-SPL	G 1/4"	313	124	Ø 75h6	Ø 108	5	Ø 90	Ø 55	Ø 7	G 1/4"	Ø 4.5
	FDFM-08-10B-SPL	G 3/8"	342	130	Ø 80h6	Ø 118	5	Ø 100	Ø 55	Ø 9	G 3/8"	Ø 6.5
	FDFM-10-10B-SPL	G 3/8"	404	140	Ø 90h6	Ø 128	5	Ø 110	Ø 63	Ø 9	G 3/8"	Ø 6.5

Subject to technical change without notice.

*Ideal for New as well as Easy Retrofit Installations...*

**AHS-MP SERIES**

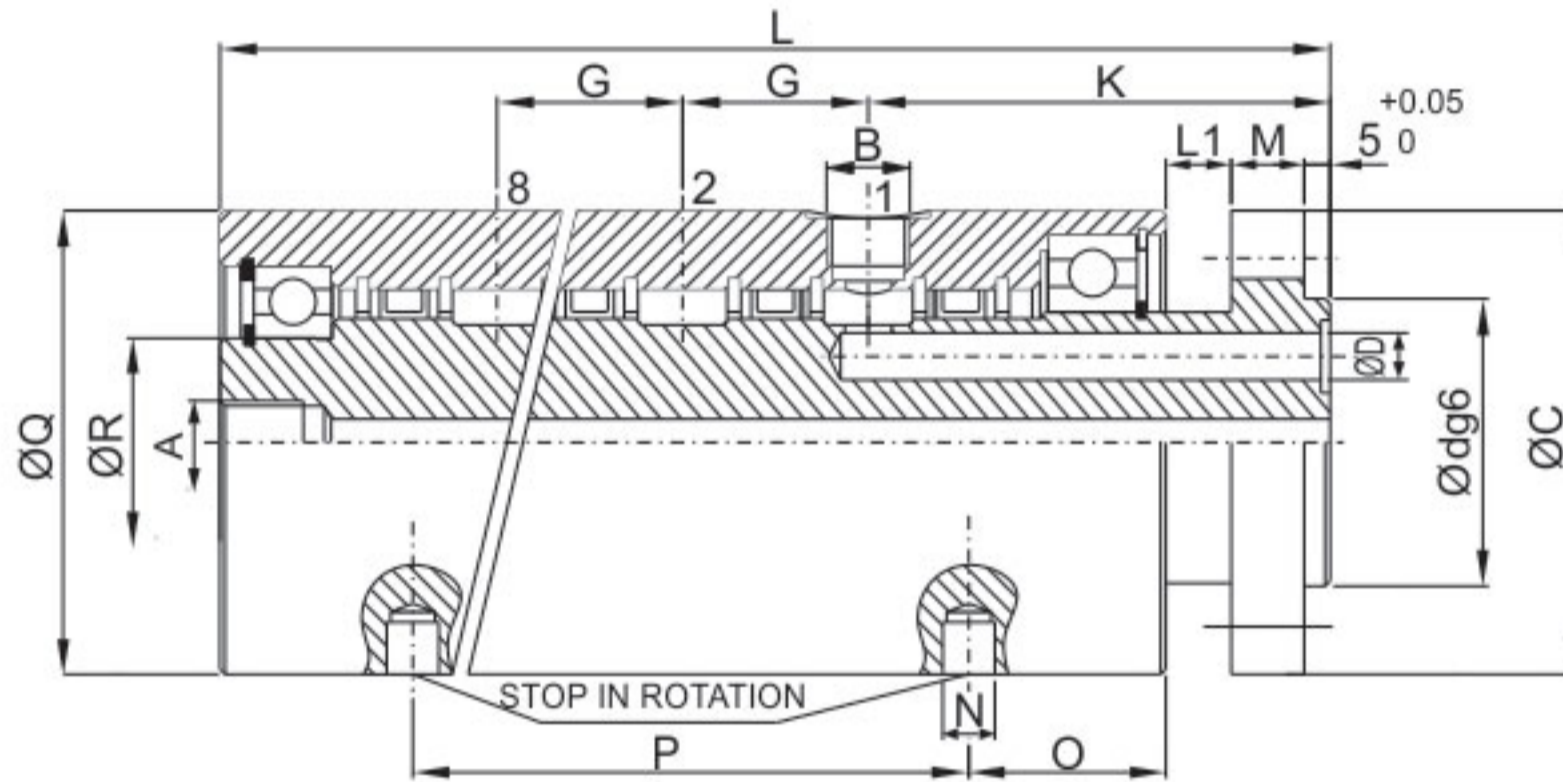


**DESIGN FEATURES**

- 'FOURWENTS' TYPE FDU 400 ROTARY UNIONS ARE HIGH PRESSURE MULTI PORT UNIONS. THE STANDARD SERIES IS AVAILABLE UP TO MAXIMUM OF 4 X 4 PORTS CONFIGURATION. HIGHER CONFIGURATION CAN BE MADE AVAILABLE ON REQUEST.
- AVAILABLE IN BRASS OR ALUMINIUM BODY.
- **DIRECTLY INTERCHANGEABLE WITH ANY OEM SELF-SUPPORTED ROTARY UNION.**

**OPERATING DATA**

MAX. PRESSURE	5800 PSI ( 400 BAR )
MAX. TEMPERATURE	250° F ( 120° C )
MAX. SPEED	175 RPM



**AHS-MP SERIES**

FOURWENTS PART NO.:	B PORT	A	ØC	ØD	Ødg6	ØF	G	ØH	ØI	J	K	L	L1	M	N	O	P	ØQ	ØR	ØS
FD 400-0622	(2) X G 1/4"	G1/4"	100	8	40	24	31	12	72	11	92	174	20	12	M10	34	73	89.5	35	8
FD 400-0633	(3) X G 1/4"	G1/4"	100	8	40	24	31	12	72	11	92	205	20	12	M10	34	104	89.5	35	8
FD 400-0644	(4) X G 1/4"	G1/4"	100	8	40	24	31	12	72	11	92	236	20	12	M10	34	135	89.5	35	8
FD 400-0655	(5) X G 1/4"	G3/8"	100	8	40	26	31	12	72	11	92	267	20	12	M10	34	166	89.5	35	10
FD 400-0666	(6) X G 1/4"	G1/2"	115	8	55	37.5	33	12	86	11	98.5	319	20	14	M10	39	206	114.5	50	12
FD 400-0677	(7) X G 1/4"	G1/2"	115	8	55	37.5	33	12	86	11	98.5	352	20	14	M10	39	239	114.5	50	12
FD 400-0688	(8) X G 1/4"	G1/2"	115	8	55	37.5	33	12	86	11	98.5	385	20	14	M10	39	272	114.5	50	12
FD 400-1022	(2) X G 3/8"	G1/4"	100	10	40	24	33	12.5	72	11	93	178	20	12	M10	34	77	89.5	35	8
FD 400-1033	(3) X G 3/8"	G1/4"	100	10	40	24	33	12.5	72	11	93	211	20	12	M10	34	110	89.5	35	8
FD 400-1044	(4) X G 3/8"	G1/4"	100	10	40	24	33	12.5	72	11	93	244	20	12	M10	34	143	89.5	35	8
FD 400-1055	(5) X G 3/8"	G1/2"	115	10	55	34	35	12.5	86	11	99.5	296	20	14	M10	39	183	114.5	50	12
FD 400-1066	(6) X G 3/8"	G1/2"	115	10	55	34	35	12.5	86	11	99.5	331	20	14	M10	39	218	114.5	50	12
FD 400-1077	(7) X G 3/8"	G1/2"	115	10	55	34	35	12.5	86	11	99.5	366	20	14	M10	39	253	114.5	50	12
FD 400-1088	(8) X G 3/8"	G3/4"	140	10	70	47	35	12.5	108	13	110.5	415	25	15	M12	42	290	134.5	65	18
FD 400-1522	(2) X G 1/2"	G3/8"	115	12	55	32	37	17.5	86	11	100.5	195	20	14	M12	39	82	114.5	50	10
FD 400-1533	(3) X G 1/2"	G3/8"	115	12	55	32	37	17.5	86	11	100.5	232	20	14	M12	39	119	114.5	50	10
FD 400-1544	(4) X G 1/2"	G3/8"	115	12	55	32	37	17.5	86	11	100.5	269	20	14	M12	39	156	114.5	50	10
FD 400-1555	(5) X G 1/2"	G1/2"	140	12	70	42	37	17.5	108	13	111.5	320	25	15	M12	42	196	134.5	65	12
FD 400-1566	(6) X G 1/2"	G3/4"	170	12	90	54	39	17.5	132	17	124	388	30	16	M12	47	247	159.5	85	18
FD 400-1577	(7) X G 1/2"	G3/4"	170	12	90	54	39	17.5	132	17	124	427	30	16	M12	47	286	159.5	85	18
FD 400-1588	(8) X G 1/2"	G3/4"	170	12	90	54	39	17.5	132	17	124	466	30	16	M12	47	325	159.5	85	18
FD 400-2022	(2) X G 3/4"	G3/8"	140	18	70	38	43	24	108	13	114.5	222	25	15	M12	42	98	134.5	65	10
FD 400-2033	(3) X G 3/4"	G3/8"	140	18	70	38	43	24	108	13	114.5	265	25	15	M12	42	141	134.5	65	10
FD 400-2044	(4) X G 3/4"	G3/8"	140	18	70	38	43	24	108	13	114.5	308	25	15	M12	42	184	134.5	65	10
FD 400-2055	(5) X G 3/4"	G3/4"	170	18	90	56	45	24	132	17	127	379	30	16	M12	47	238	159.5	85	18
FD 400-2522	(2) X G 1"	G1/2"	170	25	90	50	52	32	132	17	130.5	258	30	16	M14	47	117	159.5	85	12
FD 400-2533	(3) X G 1"	G1/2"	170	25	90	50	52	32	132	17	130.5	310	30	16	M14	47	169	159.5	85	12
FD 400-2544	(4) X G 1"	G1/2"	170	25	90	50	52	32	132	17	130.5	362	30	16	M14	47	221	159.5	85	12
FD 400-2555	(5) X G 1"	G3/4"	190	25	105	69	55	32	150	17	139.5	442	30	16	M14	54	289	189.5	100	18
FD 400-3222	(2) X G 1 1/4"	G1/2"	190	31	105	57	61	36.5	150	17	142.5	289	30	16	M14	54	136	189.5	100	12
FD 400-3233	(3) X G 1 1/4"	G1/2"	190	31	105	57	61	36.5	150	17	142.5	350	30	16	M14	54	197	189.5	100	12
FD 400-3244	(4) X G 1 1/4"	G1/2"	190	31	105	57	61	36.5	150	17	142.5	411	30	16	M14	54	258	189.5	100	12
FD 400-3255	(5) X G 1 1/4"	G3/4"	230	31	140	87	67	36.5	184	17	161.5	532	30	20	M16	64	353	229.5	130	18

Subject to technical change without notice.

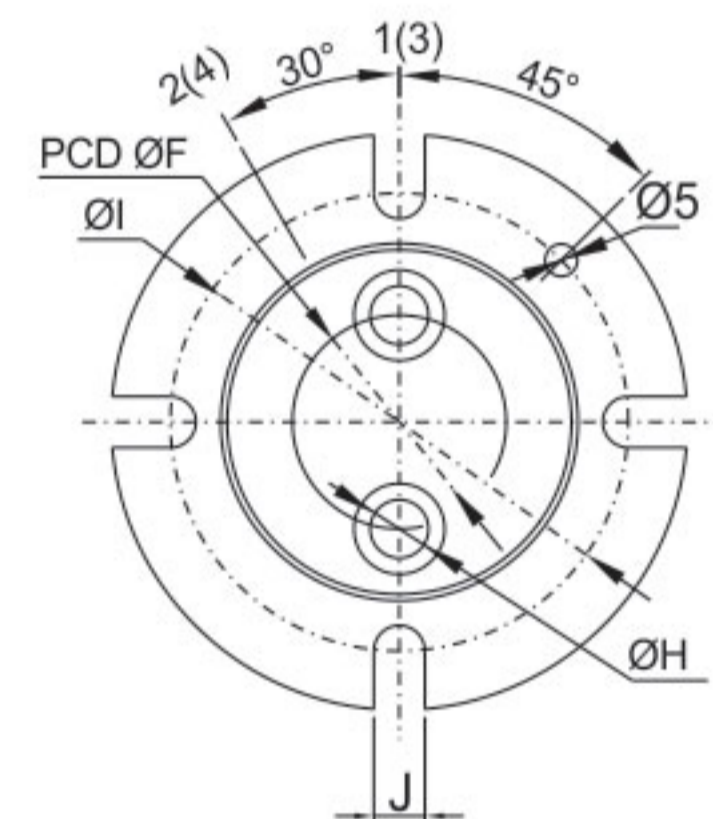
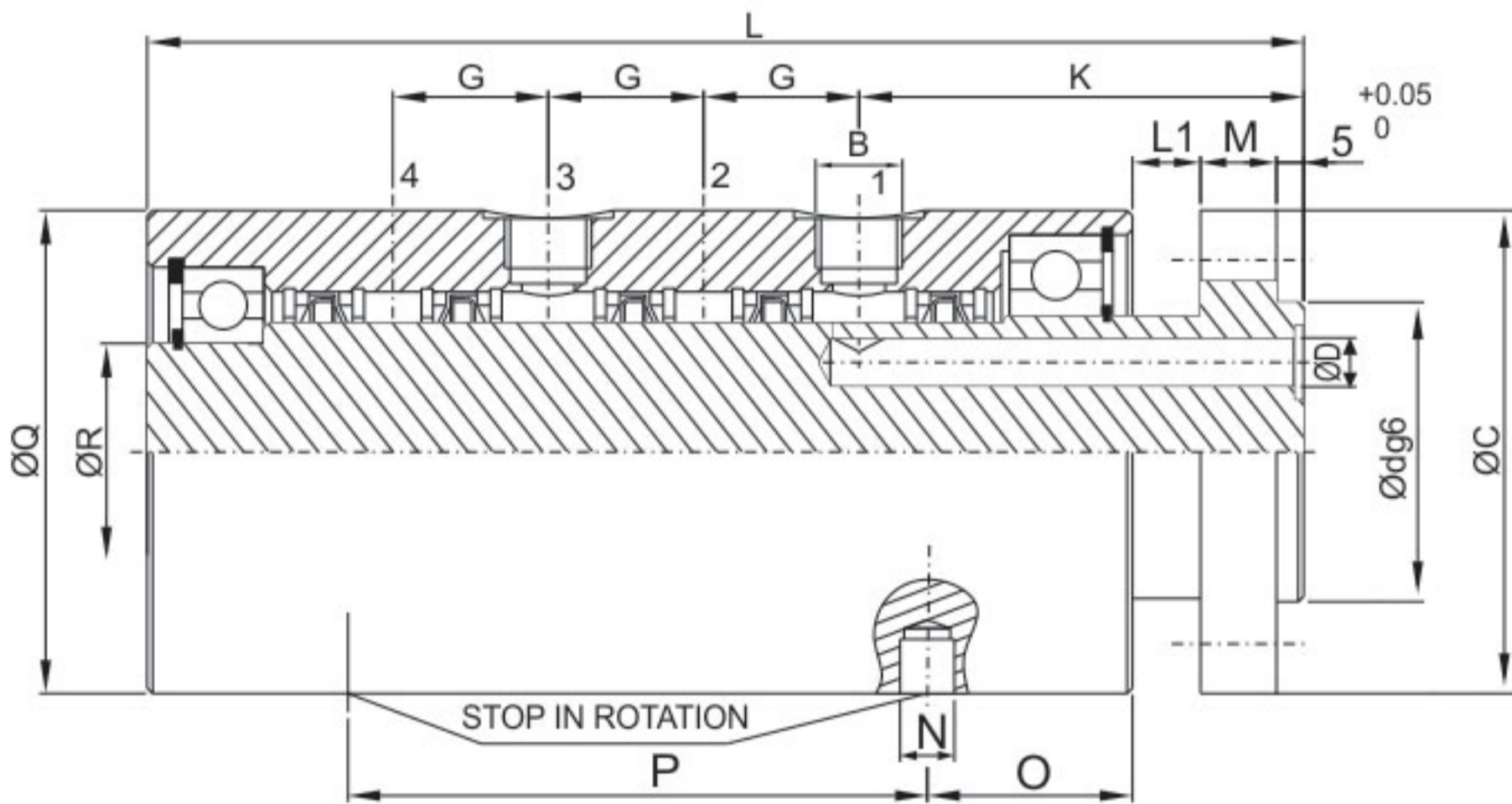


**DESIGN FEATURES**

- 'FOURWENTS' TYPE FDU 400 ROTARY UNIONS ARE HIGH PRESSURE MULTI PORT UNIONS. THE STANDARD SERIES IS AVAILABLE UP TO MAXIMUM OF 4 X 4 PORTS CONFIGURATION. HIGHER CONFIGURATION CAN BE MADE AVAILABLE ON REQUEST.
- AVAILABLE IN BRASS OR ALUMINIUM BODY.
- **DIRECTLY INTERCHANGEABLE WITH ANY OEM SELF SUPPORTED ROTARY UNION.**

**OPERATING DATA**

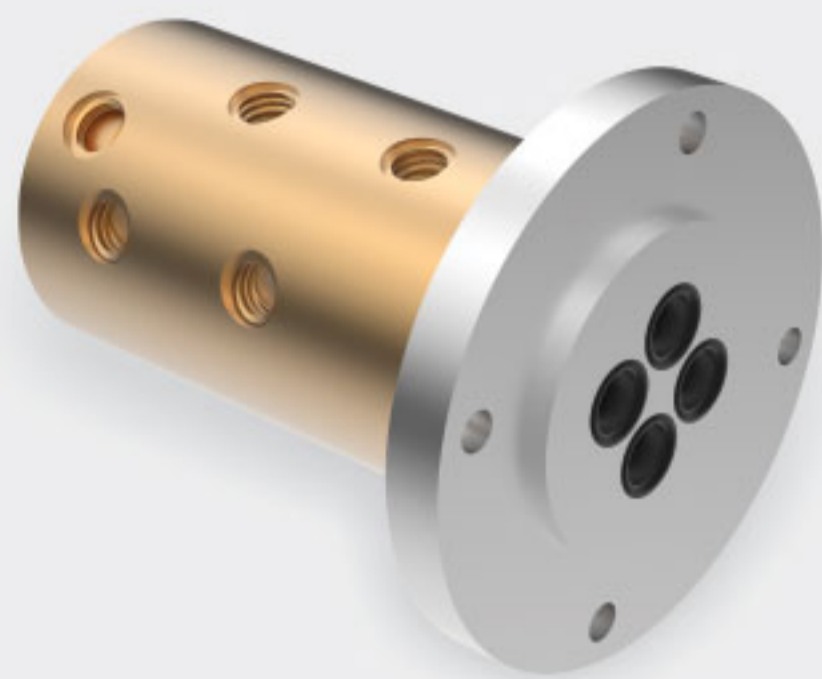
MAX. PRESSURE	175 PSI ( 12 BAR )
MAX. TEMPERATURE	250° F ( 120° C )
MAX. SPEED	3000 RPM



FOURWENTS MODEL NO.	B PORT	ØC	ØD	Ødg6	ØF	G	ØH	ØI	J	K	L	L1	M	N	O	P	ØQ	ØR
FD 3000-0322	(2) X G 1/8"	80	6	35	22	26.5	9	60	9	79	151	15	10	M8	33	57	79.5	30
FD 3000-0333	(3) X G 1/8"	80	6	35	22	26.5	9	60	9	79	177	15	10	M8	33	83	79.5	30
FD 3000-0344	(4) X G 1/8"	80	6	35	22	26.5	9	60	9	79	204	15	10	M8	33	110	79.5	30
FD 3000-0622	(2) X G 1/4"	100	8	40	24	31	12	72	11	92	174	20	12	M10	33	72	89.5	35
FD 3000-0633	(3) X G 1/4"	100	8	40	24	31	12	72	11	92	205	20	12	M10	33	103	89.5	35
FD 3000-0644	(4) X G 1/4"	100	8	40	24	31	12	72	11	92	236	20	12	M10	33	134	89.5	35
FD 3000-1022	(2) X G 3/8"	100	10	40	24	33	12.5	72	11	93	178	20	12	M10	33	76	89.5	35
FD 3000-1033	(3) X G 3/8"	100	10	40	24	33	12.5	72	11	93	211	20	12	M10	33	110	89.5	35
FD 3000-1044	(4) X G 3/8"	100	10	40	24	33	12.5	72	11	93	244	20	12	M10	33	142	89.5	35

Subject to technical change without notice.

**4 PASSAGE ROTARY UNIONS**



**TYPE : FDU FP 4000**  
SIZE: 3/8" TO 1/2"

**DESIGN FEATURES**

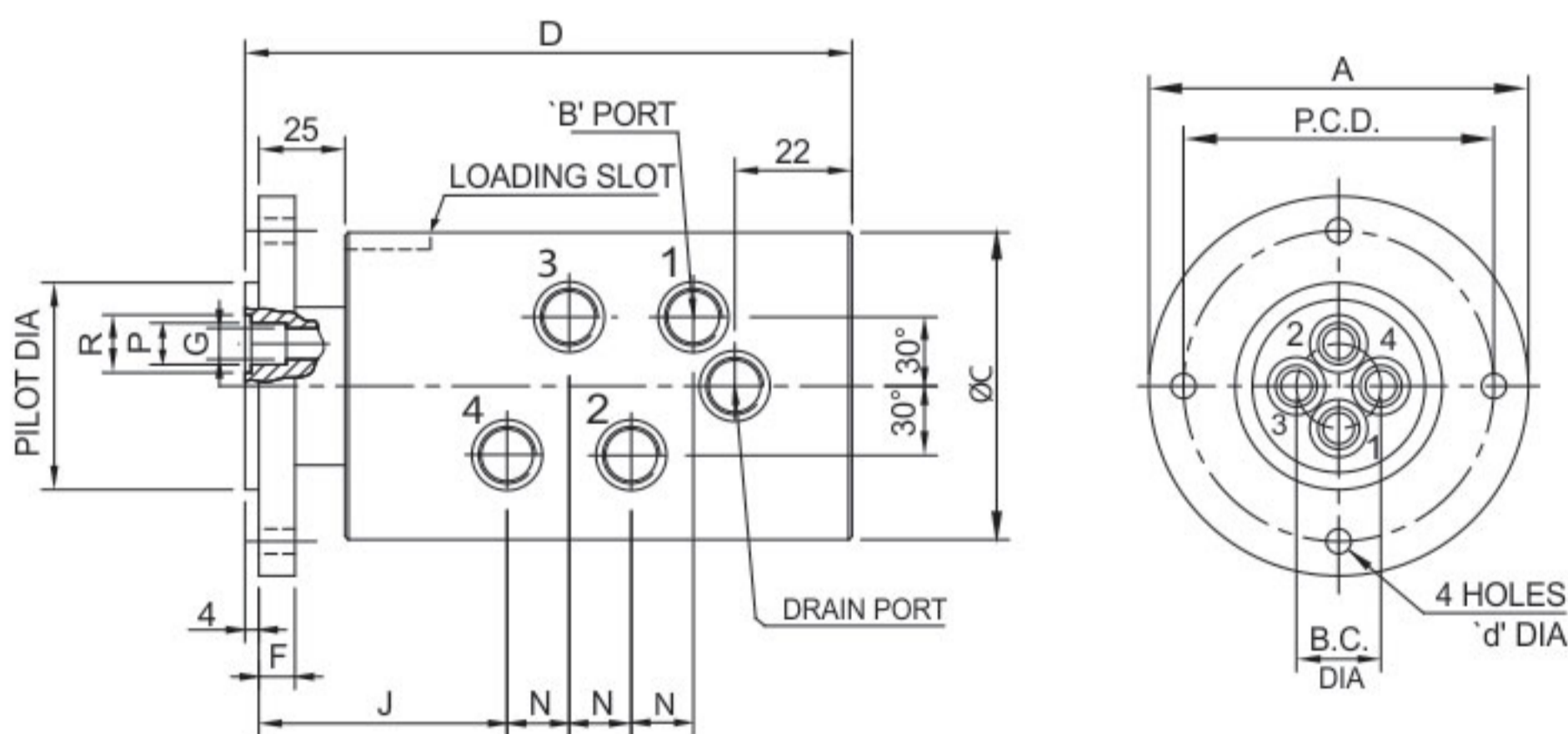
- SELF SUPPORTED ROTATING UNION.
- 4 PASSAGE DESIGN.
- FLANGED MAIN ROTOR.
- BRASS HOUSING / BODY.
- HARD CARBIDE SEALING FACE SURFACES & CARBON - FILLED TEFLON SEAL.
- STAINLESS STEEL MAIN ROTOR.
- BALL BEARING DESIGN.
- **DIRECTLY INTERCHANGEABLE WITH ANY OEM SELF SUPPORTED ROTARY UNION.**

THIS MODELS ARE USED TO ACTUATE PNEUMATIC OR HYDRAULIC DEVICES ON MULTI STATION INDEX TABLES. WIDELY SPACED BALL BEARINGS ELIMINATE SEAL LOADING AND RESULT IN LONGER LIFE.

A DRAIN PORT IS PROVIDED TO ALLOW LEAKAGES IS PROVIDED BETWEEN PORTS 2 AND 3 TO ALLOW USE WITH TWO MEDIAS WITHOUT THE DANGER OF CROSS CONTAMINATION.

**OPERATING DATA**

MAX. AIR PRESSURE	150 PSI / 10 BAR
MAX. HYDRAULIC PRESSURE	850 PSI
MAX. TEMPERATURE	180 ° F
MAX. SPEED	10 TO 250 RPM



MULTI PASSAGE / PORT	"FOURWENTS" ORDERING NO.	B PORT	DRAIN PORT	Ø A	Ø C	D	F	Ø G	J1 LOCK UP	N	Ø P	Ø R	Ø d	Ø B.C.	P.C.D.	PILOT DIA
	FD 4000-10 NPT	4x3/8" NPT	3/8" NPT / BSP	110	89	176	10.5	9	72	18	12.05 12.00	16.75 16.65	7.2	24.5	90	60.000 59.981
	FD 4000-10 BSP	4x3/8" BSP	3/8" NPT / BSP	110	89	176	10.5	9	72	18	12.05 12.00	16.75 16.65	7.2	24.5	90	60.000 59.981
	FD 4000-15 NPT	4x1/2" NPT	1/2" NPT / BSP	130	108	202	13.5	13	81	23	15.05 15.00	19.75 19.65	9	29	110	75.000 74.981
	FD 4000-15 BSP	4x1/2" BSP	1/2" NPT / BSP	130	108	202	13.5	13	81	23	15.05 15.00	19.75 19.65	9	29	110	75.000 74.981

Subject to technical change without notice.

**1 TO 4 PASSAGE HIGH PRESSURE HYDRAULIC  
ROTARY UNIONS**



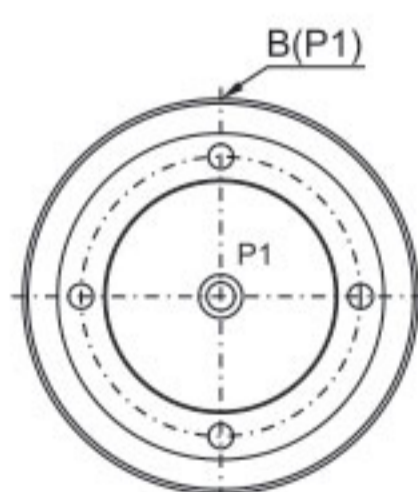
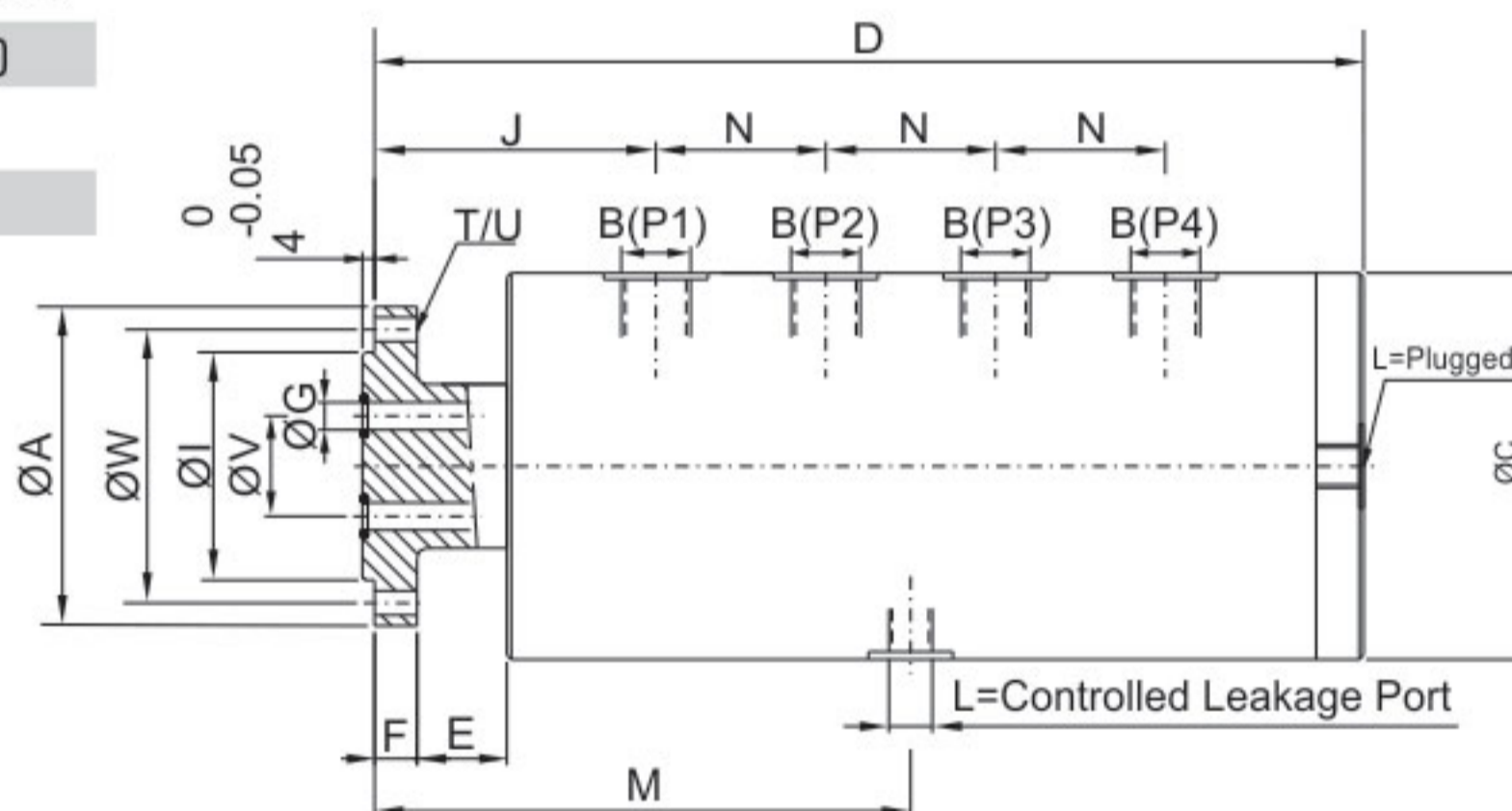
**TYPE : FMP 5171**  
SIZE : 1/4"

**DESIGN FEATURES**

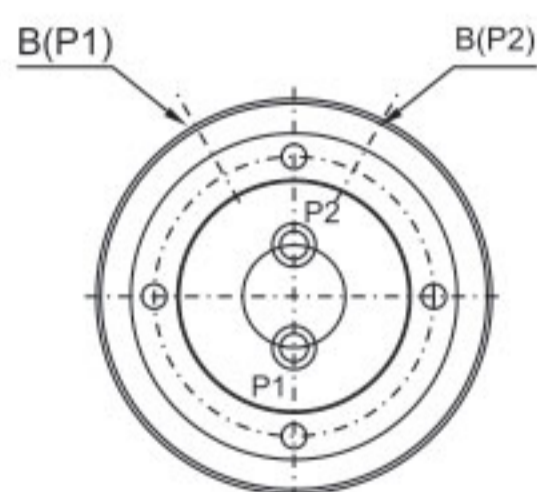
- SELF SUPPORTED ROTARY UNION.
  - HYDROSTATIC BEARING DESIGN.
  - BALL BEARING SUPPORTED DESIGN.
  - SHAFT SEAL FOR SECONDARY SEALING.
  - ALUMINIUM HOUSING / BODY.
  - SPECIALLY TREATED / COATED MAIN ROTOR.
  - SPECIAL DESIGN FOR HIGHER SPEEDS.
- **DIRECTLY INTERCHANGEABLE WITH ANY OEM SELF SUPPORTED ROTARY UNION.**

**OPERATING DATA**

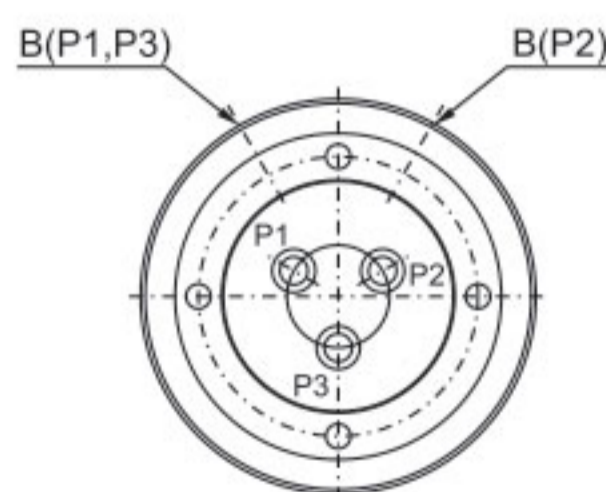
MAX. HYDRAULIC PRESSURE	2900 PSI ( 200BAR )
MIN. HYDRAULIC PRESSURE	40 PSI ( 3 BAR )
MAX. TEMPERATURE	140° F ( 60° C )
MAX. SPEED	3,000 RPM



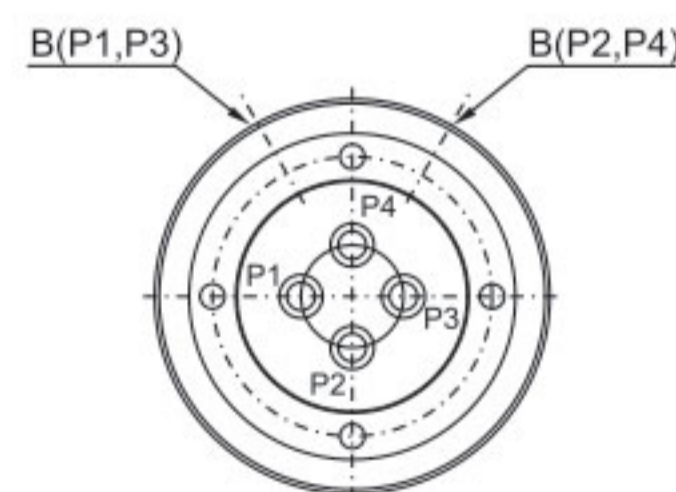
**FMP 5171-0106**



**FMP 5171-0206**



**FMP 5171-0306**



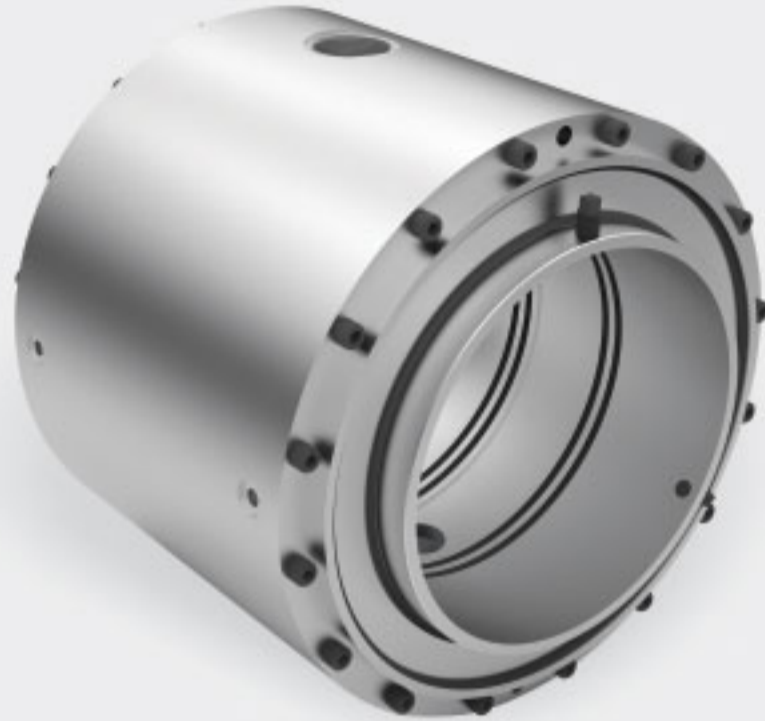
**FMP 5171-0406**

FOURWENTS MODEL NO.	B PORT	ØA ROTOR	ØC	D	E	F	ØG	ØI	J	L	M	N	T	ØU	ØV	ØW
FMP 5171-0106	(1)xG1/4"	Flange Ø 60	89	112	29	8	1 x 6	30f7	62.5	G1/8"	75	---	4x90°	7	14	45
FMP 5171-0206	(2)xG1/4"	Flange Ø 60	89	136	29	8	2 x 6	30f7	62.5	G1/8"	100	25	4x90°	7	14	45
FMP 5171-0306	(3)xG1/4"	Flange Ø 60	89	162	29	8	3 x 6	30f7	62.5	G1/4"	75	25	4x90°	7	14	45
FMP 5171-0406	(4)xG1/4"	Flange Ø 60	89	186	29	8	4 x 6	30f7	62.5	G1/4"	100	25	4x90°	7	14	45

Subject to technical change without notice.

**DUO-FLOW ROTARY UNIONS**

**TYPE :FD - ATS**



**SIZES: 1" TO 16"**

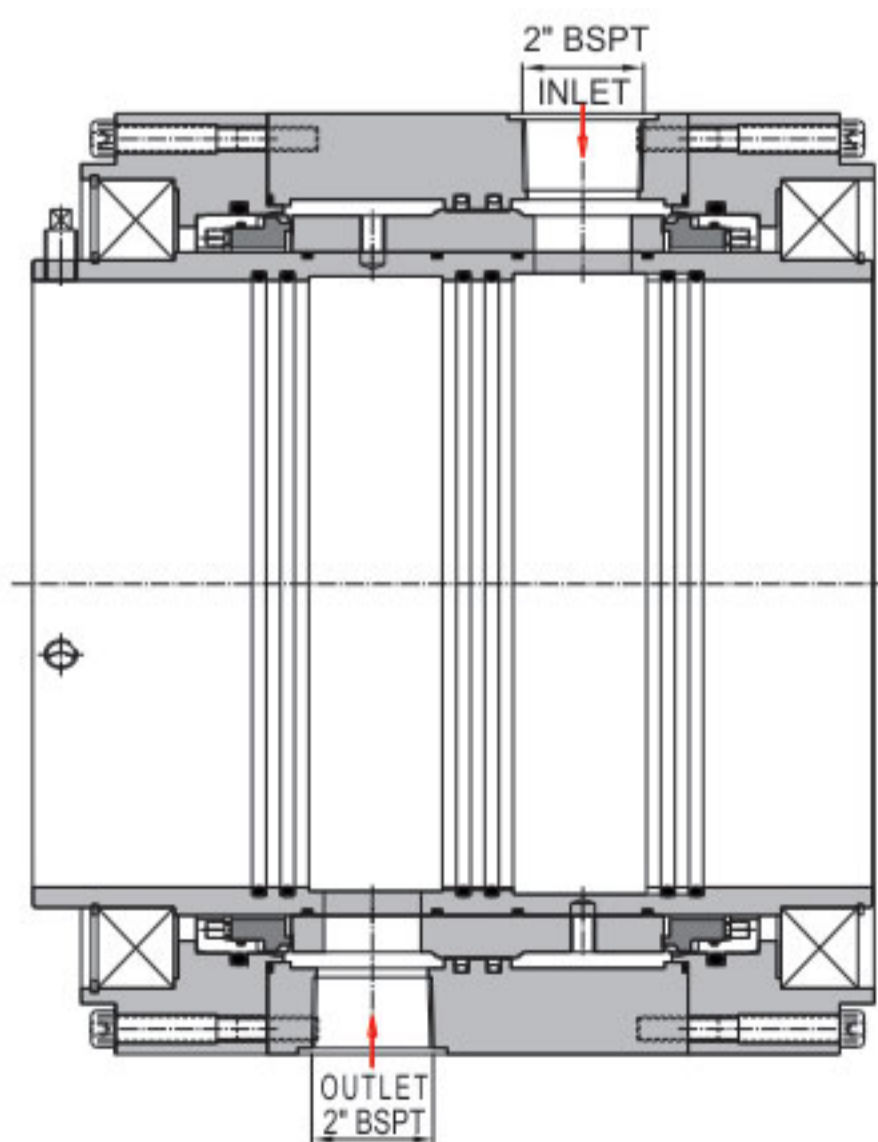
**OPERATING DATA**

MAX. WORKING PRESSURE	10kg / cm <sup>2</sup>
MAX. WORKING TEMPERATURE	150° C

- AROUND THE SHAFT ROTARY UNIONS.
- ON THE SHAFT ROTARY UNIONS.
- OVER THE SHAFT ROTARY UNIONS.

**DESIGN FEATURES**

- AROUND THE SHAFT OR SHAFT MOUNTED DESIGN USED IN WITH CUSTOMER'S SHAFT AND RETAINING SLEEVE.
- STAINLESS STEEL , BRONZE, CARBON STEEL AND ALUMINIUM CONSTRUCTIONS.
- CUSTOMIZED DESIGNS.
- HIGH & LOW SPEED VERSIONS.
- **HIGH SPEED, LOW PRESSURE:**  
LOW PRESSURE, HIGH SPEED MODEL, WILL BE USED AT ROTATION SPEED UPTO 3000 RPM AND PRESSURE UPTO 175 PSI.
- **LOW SPEED, HIGH PRESSURE:**  
HIGH PRESSURE, LOW SPEED MODELS WILL BE USED AT ROTATION SPEED UPTO 100 RPM AND PRESSURE UPTO 5000 PSI.



NOTE : PHOTOGRAPH SHOWN 12" ONE PASSAGE AROUND THE SHAFT ROTARY JOINT WITH MECHANICAL SEALING & 2" INLET & 2" BSPT OUTLET THREADS.

THE 'FOURWENTS' SERIES FD-ATS AROUND THE SHAFT ROTARY JOINTS ARE DESIGNED FOR APPLICATIONS FOR WATER, AIR, VACUUM, HYDRAULIC OIL AND APPLICATIONS REQUIRING.

ONE OR TWO PASSAGES THAT TRANSFER FLUID INTO OR OUT OF A ROTATING SHAFT. 'FOURWENTS' MULTIPURPOSE ONE OR TWO - PASSAGE, AROUND- THE SHAFT ROTARY JOINTS USED FOR METAL INDUSTRY.

THE MAIN ROTOR, MANUFACTURED FROM STAINLESS STEEL, ROTATES WITH THE EQUIPMENT/ CUSTOMER'S SHAFT. SPECIAL SEALING BETWEEN THE ROTOR AND THE BODY MADE OF STAINLESS STEEL OR CARBON STEEL OR ALUMINIUM ALLOY ARE SEALED WITH SPECIAL 'O' RINGS OR LIP SEALS DEPENDING ON THE APPLICATIONS & BEARINGS ARE MADE OF DIFFERENT MATERIALS INCLUDING BRONZE BEARING MATERIAL.

Subject to technical change without notice.

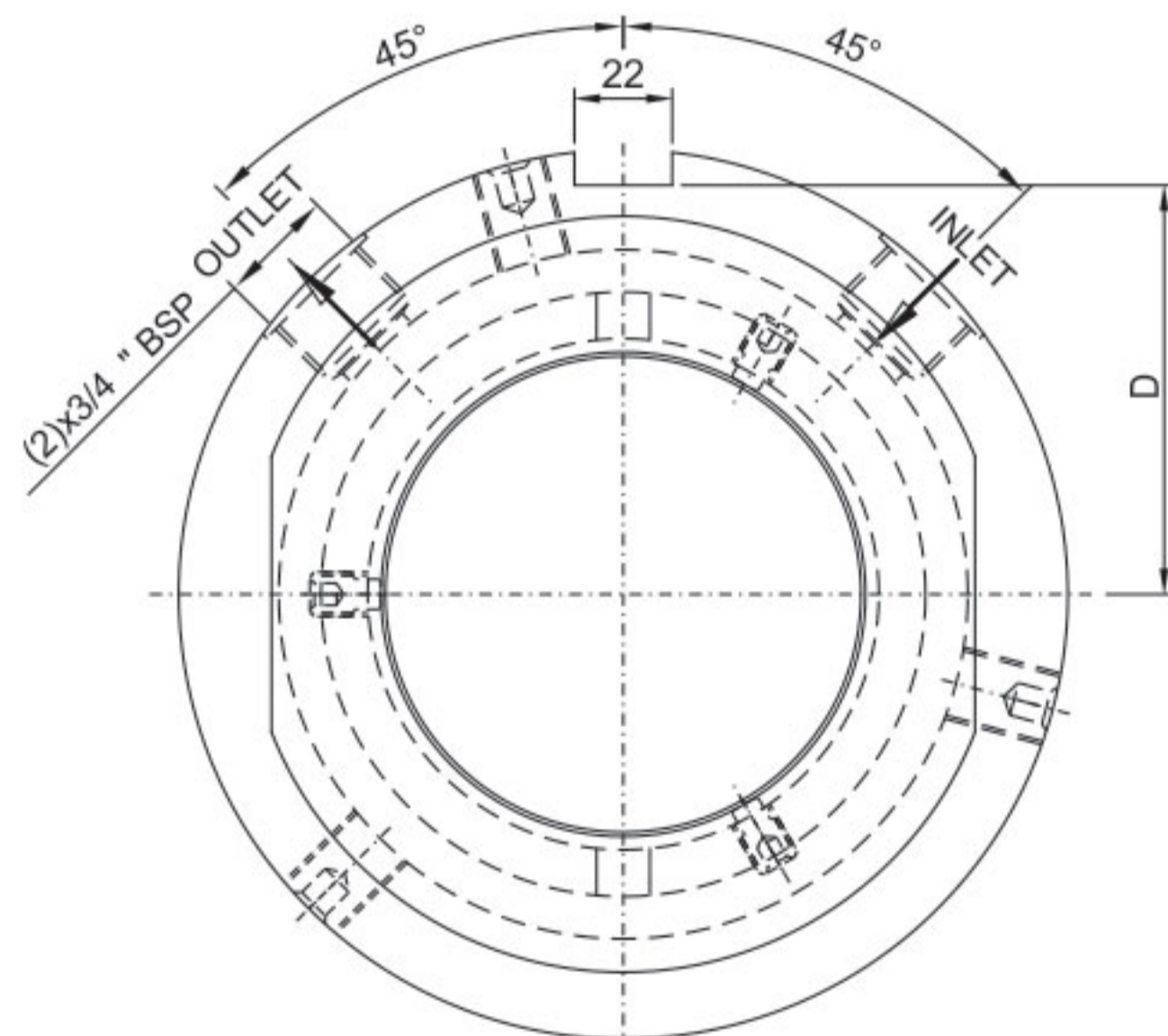
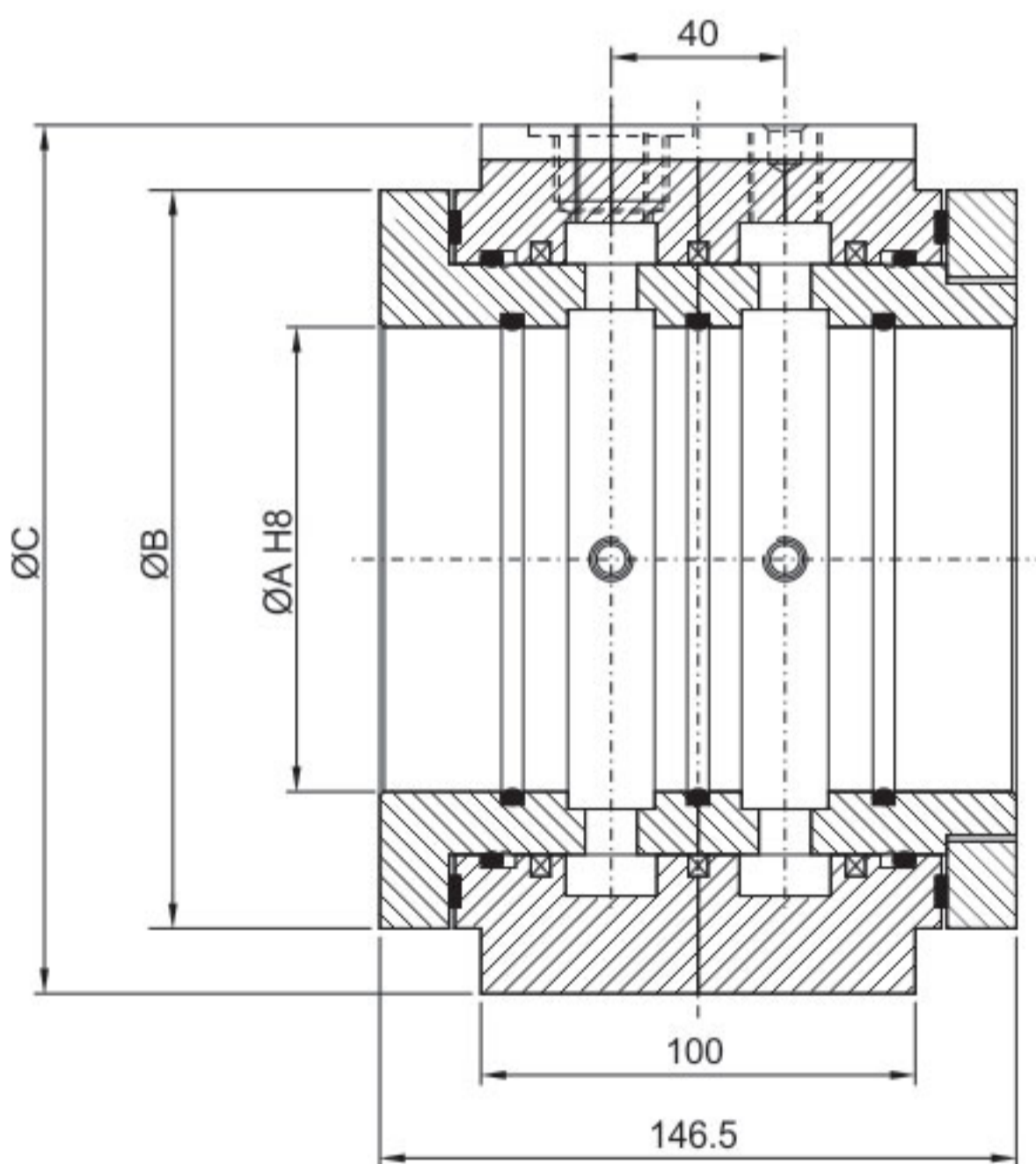
**DUO-FLOW ROTARY UNIONS FOR CCM**



**MEDIA:**

- TRANSMISSION OF WATER, AIR, VACUUM & HYDRAULIC OIL.

OPERATING DATA	
MAX. PRESSURE	150 PSI / 10 BAR
MAX. TEMPERATURE	250° F / 121° C
MAX. SPEED	10 RPM



**ATS SERIES**

'FOURWENTS' ORDERING NO.	INLET / OUTLET SIZE	A	B	C	D
FD-ATS-107-2020-B	3/4" BSP	Ø 107	Ø 170	Ø 200	92
FD-ATS-137-2020-B	3/4" BSP	Ø 137	Ø 200	Ø 230	107
FD-ATS-157-2020-B	3/4" BSP	Ø 157	Ø 220	Ø 250	115

**DUO-FLOW ROTARY UNIONS FOR CCM WITH SUPER HARD SEAL**



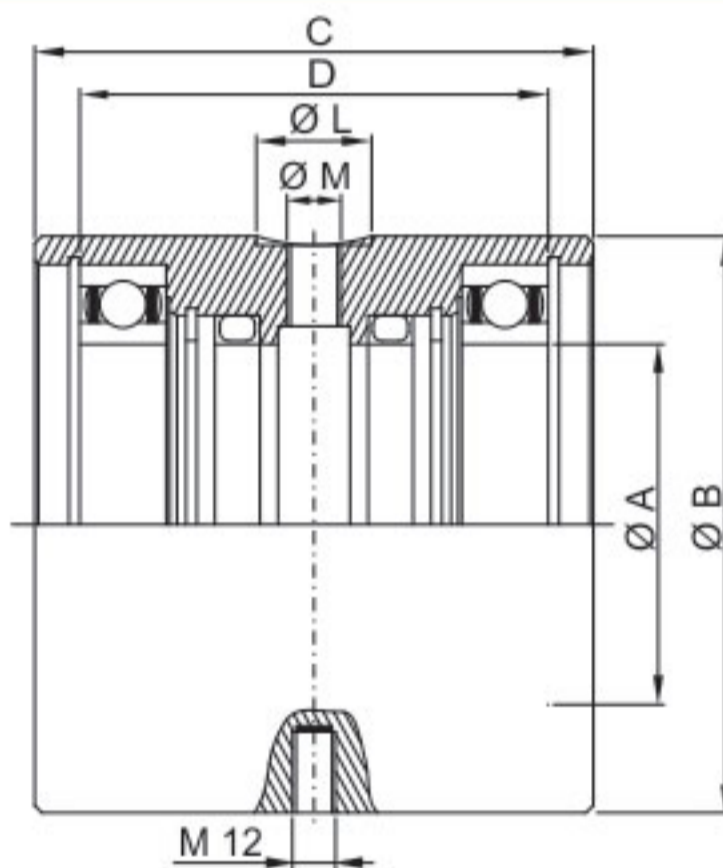
- MEDIA: TRANSMISSION OF WATER, AIR, AND HYDRAULIC FLUID.

**DESIGN FEATURES**

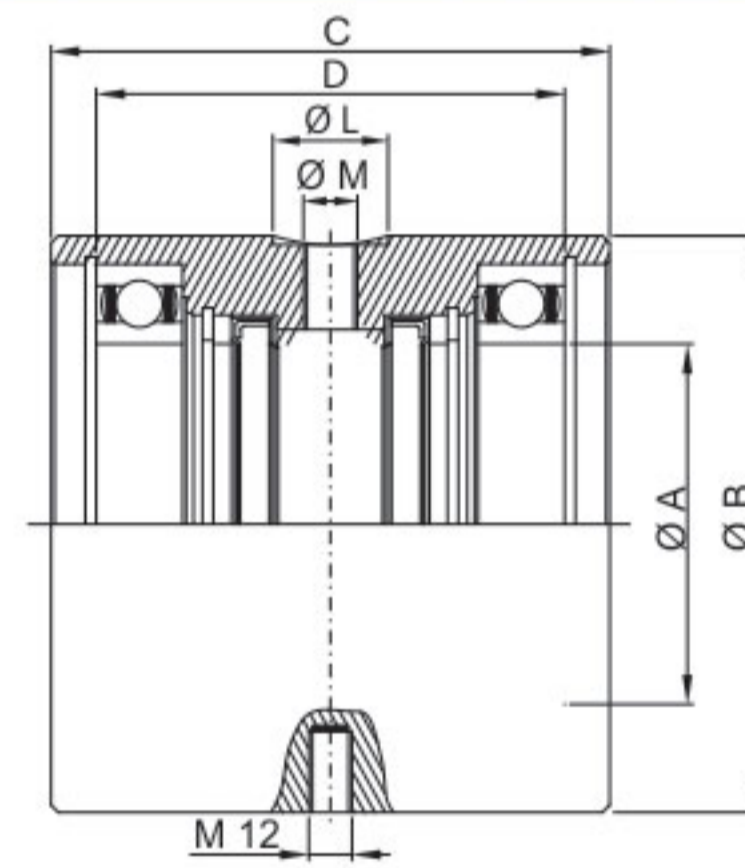
- SHAFT MOUNTED DESIGN.
- USED IN CONJUNCTION WITH THE CUSTOMER'S SHAFT AND RETAINING SLEEVE.
- TWO CONFIGURATIONS.
  - HIGH SPEED, LOW PRESSURE APPLICATIONS ( HIGH SPEED, LOW PRESSURE MODELS CAN BE USED SPEEDS TO 3,000 RPM, AND PRESSURE TO 175 PSI.)
- HIGH PRESSURE, LOW SPEED APPLICATIONS. ( HIGH PRESSURE, LOW SPEED MODELS CAN BE USED AT PRESSURES TO 5,800 PSI AND SPEED LESS THAN 100 RPM. )
- MAX. TEMPERATURE : 250°F

OR

**HIGH SPEED, LOW PRESSURE**



**HIGH PRESSURE, LOW SPEED**



**ATS SERIES**

	H S L P		H P L S		CUSTOMER SHAFT SIZE	A	B	C	D	L	M (BSP/NPT)
	"FOURWENTS" ORDERING NO. FOR BSP	"FOURWENTS" ORDERING NO. FOR NPT	"FOURWENTS" ORDERING NO. FOR BSP	"FOURWENTS" ORDERING NO. FOR NPT							
DUO-FLOW	FD-ATS-500-20-06-B1	FD-ATS-500-20-06-N1	FD-ATS-500-20-06-B2	FD-ATS-500-20-06-N2	20 mm	19.1	55.9	90.9	79.0	21.8	1/4"
	FD-ATS-500-30-06-B1	FD-ATS-500-30-06-N1	FD-ATS-500-30-06-B2	FD-ATS-500-30-06-N2	30 mm	30.0	65.8	92.9	79.0	21.8	
	FD-ATS-500-40-06-B1	FD-ATS-500-40-06-N1	FD-ATS-500-40-06-B2	FD-ATS-500-40-06-N2	40 mm	39.9	75.9	101.8	87.9	21.8	
	FD-ATS-500-45-06-B1	FD-ATS-500-45-06-N1	FD-ATS-500-45-06-B2	FD-ATS-500-45-06-N2	45 mm	45.0	85.8	105.9	91.9	21.8	
	FD-ATS-500-50-06-B1	FD-ATS-500-50-06-N1	FD-ATS-500-50-06-B2	FD-ATS-500-50-06-N2	50 mm	49.8	90.9	107.9	91.9	21.8	
	FD-ATS-500-55-15-B1	FD-ATS-500-55-15-N1	FD-ATS-500-55-15-B2	FD-ATS-500-55-15-N2	55 mm	54.9	100.8	120.9	104.9	31.8	
	FD-ATS-500-60-15-B1	FD-ATS-500-60-15-N1	FD-ATS-500-60-15-B2	FD-ATS-500-60-15-N2	60 mm	59.9	105.9	122.9	106.9	31.8	1/2"
	FD-ATS-500-65-15-B1	FD-ATS-500-65-15-N1	FD-ATS-500-65-15-B2	FD-ATS-500-65-15-N2	65 mm	64.8	111.0	124.9	108.9	31.8	
	FD-ATS-500-70-15-B1	FD-ATS-500-70-15-N1	FD-ATS-500-70-15-B2	FD-ATS-500-70-15-N2	70 mm	69.9	120.9	129.0	108.9	31.8	
	FD-ATS-500-75-15-B1	FD-ATS-500-75-15-N1	FD-ATS-500-75-15-B2	FD-ATS-500-75-15-N2	75 mm	74.9	126.0	135.9	115.8	31.8	
	FD-ATS-500-80-15-B1	FD-ATS-500-80-15-N1	FD-ATS-500-80-15-B2	FD-ATS-500-80-15-N2	80 mm	79.8	135.9	139.9	119.9	31.8	
	FD-ATS-500-85-15-B1	FD-ATS-500-85-15-N1	FD-ATS-500-85-15-B2	FD-ATS-500-85-15-N2	85 mm	84.8	141.0	142.0	121.9	31.8	
	FD-ATS-500-90-15-B1	FD-ATS-500-90-15-N1	FD-ATS-500-90-15-B2	FD-ATS-500-90-15-N2	90 mm	89.9	150.9	144.0	123.9	31.8	1/2"
	FD-ATS-500-95-15-B1	FD-ATS-500-95-15-N1	FD-ATS-500-95-15-B2	FD-ATS-500-95-15-N2	95 mm	95.0	155.9	148.8	129.0	31.8	
FD-ATS-500-100-15-B1	FD-ATS-500-100-15-N1	FD-ATS-500-100-15-B2	FD-ATS-500-100-15-N2	100 mm	99.8	160.8	154.9	130.8	31.8		

Subject to technical change without notice.

**DUO-FLOW AROUND THE SHAFT ROTARY UNIONS**



**TYPE :FD - ATS**  
SIZES: 1" TO 16"

**APPLICATIONS**

THE 'FOURWENTS' SERIES AROUND-THE-SHAFT ROTARY JOINTS / UNION CAN BE USED FOR FLUIDS AND FOR AIR, VACUUM, WATER, HYDRAULIC OILS AND CLEAN LIQUIDS, THE APPLICATIONS ARE IN METALS ( STEEL ) INDUSTRY, INDUCTION ROLL CLEANING APPLICATIONS, STEEL & IRON WORKS, INDUSTRIAL MACHINERIES AND PLANTS, AUTOMATION, ROBOTICS AND MEDICINE TECHNIC.

THE 'FOURWENTS' OVER-THE-SHAFT ROTARY UNION OFFERS A BEST SOLUTION FOR THE MACHINERY THAT REQUIRES COOLING ON THE DRIVE SIDE DRIVEN ROLLERS OR FOR ROLLERS / ROLLS WHICH CANNOT ACCEPT AN AXIALLY FITTED ROTARY JOINTS FOR MANY OTHER REASONS. THIS TYPE OF CUSTOMISED (CUSTOM MADE ) ROTARY UNION CAN BE USED FOR AIR, HYDRAULIC OILS, OR WATER APPLICATIONS.

**OPERATING DATA**

MEDIA	TEMPERATURE	PRESSURE	SPEED
WATER	400° F	300 PSI TO 5800 PSI	3000 RPM
AIR	400° F	145 PSI TO 5800 PSI	
HYDRAULIC OIL	400° F	300 PSI TO 5800 PSI	
VACUUM	400° F	6,7 KPA / 28" HG	
THREADS	1/4" TO 2" NPT, BSPP, BSPT		
PASSAGES	1,2 & 4 PASSAGE OVER THE SHAFT UNIONS		

**BENEFITS**

- FLEXIBILITY IN APPLICATION.
- PROVEN LONG TERM PERFORMANCE.
- HIGHLY RESISTANT TO CORROSION.

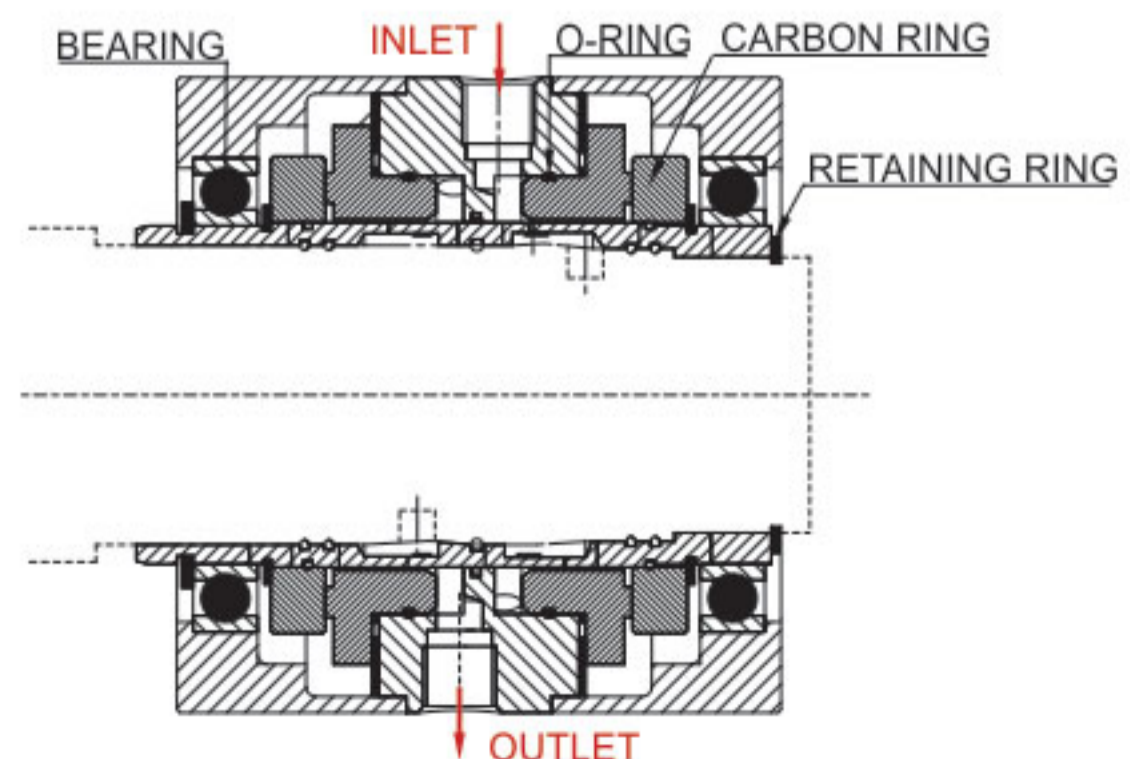
**DUO-FLOW OVER THE SHAFT ROTARY UNIONS WITH MECHANICAL SEAL**



**TYPE :FD - OTS**  
SIZES: 1" TO 16"

**OPERATING DATA**

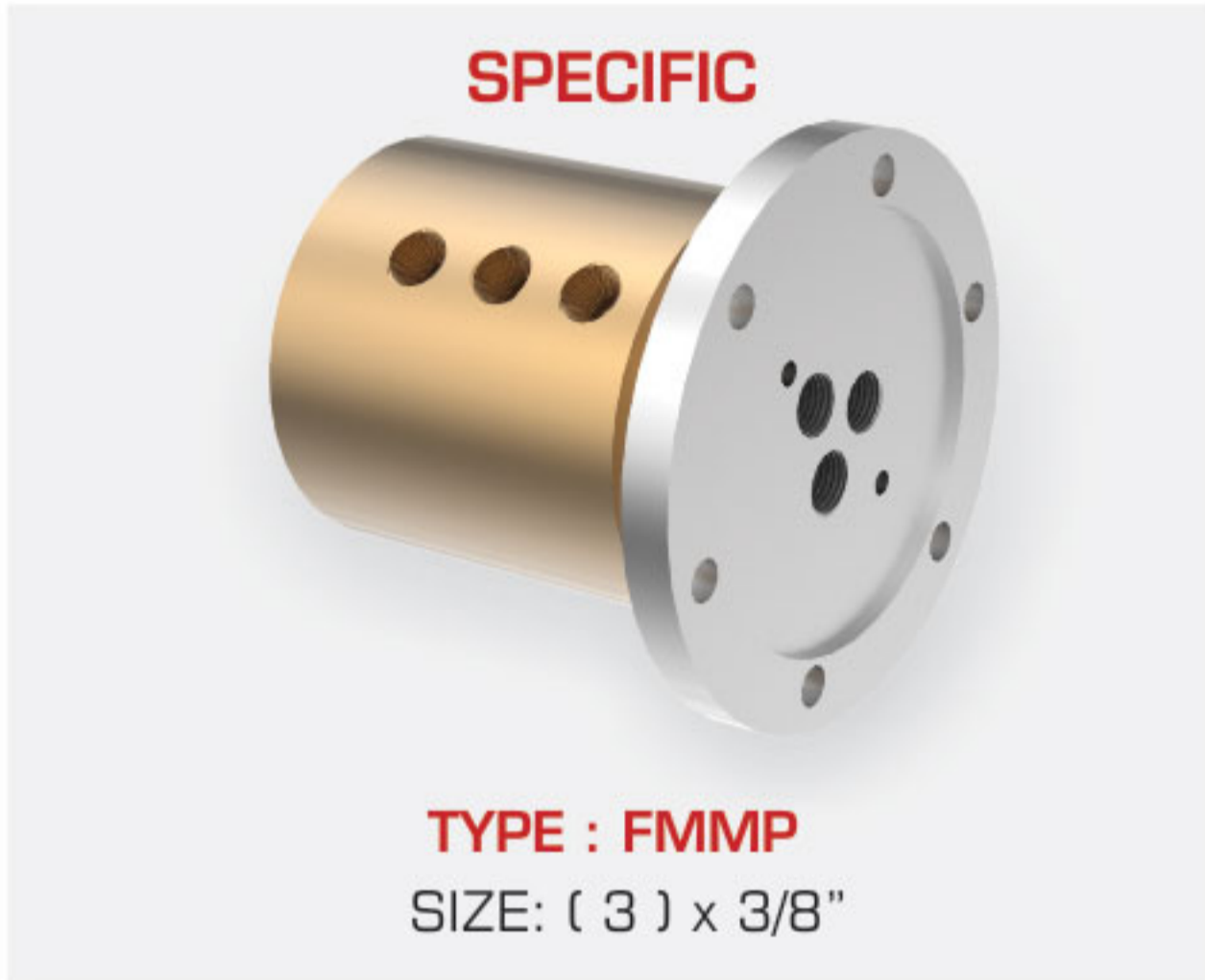
PRESSURE	150 PSIG ( 10 BAR )
TEMPERATURE	220° F ( 105° C )
SPEED	1000 RPM



Subject to technical change without notice.



**3 PASSAGE ROTARY UNIONS**



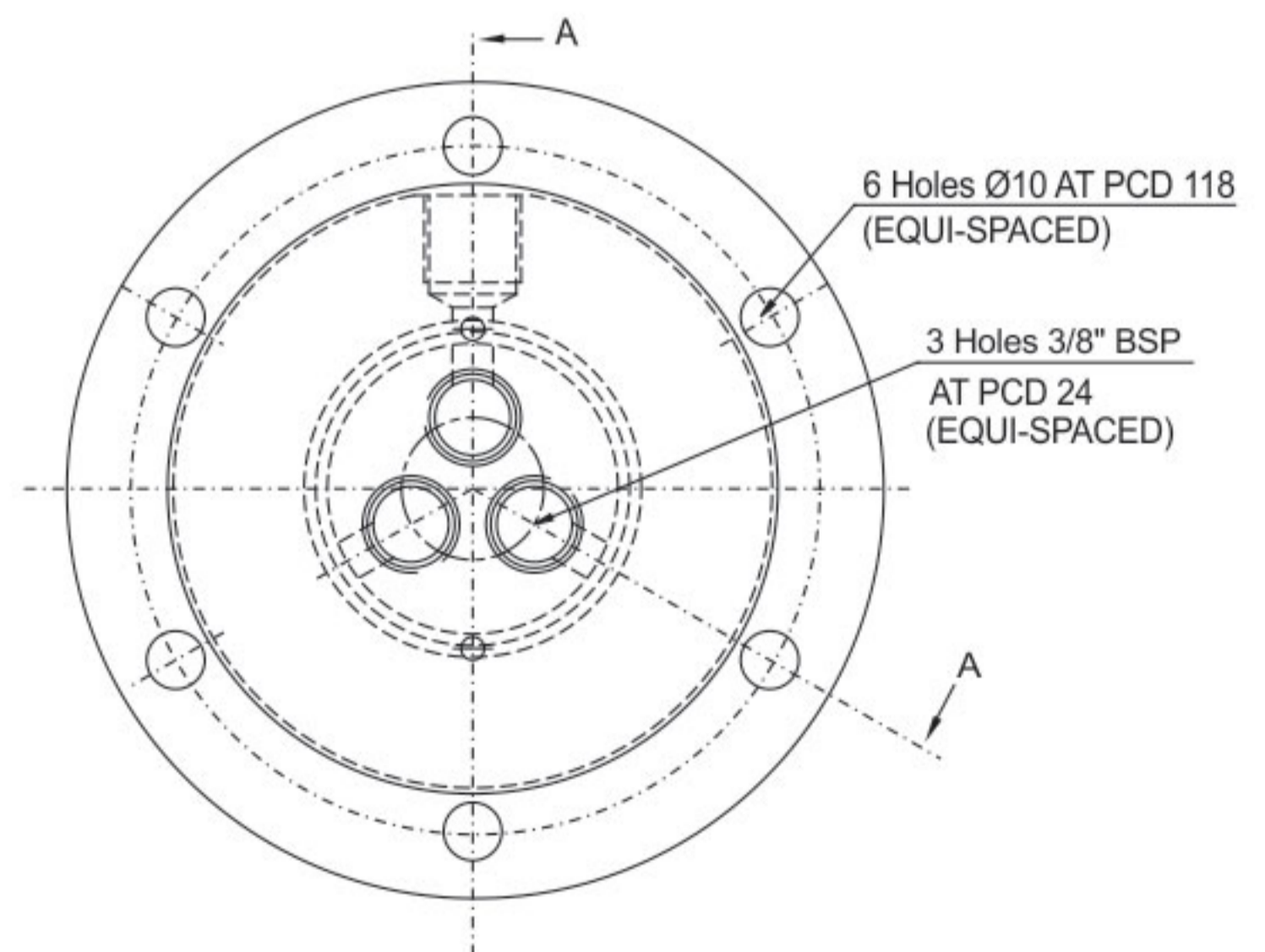
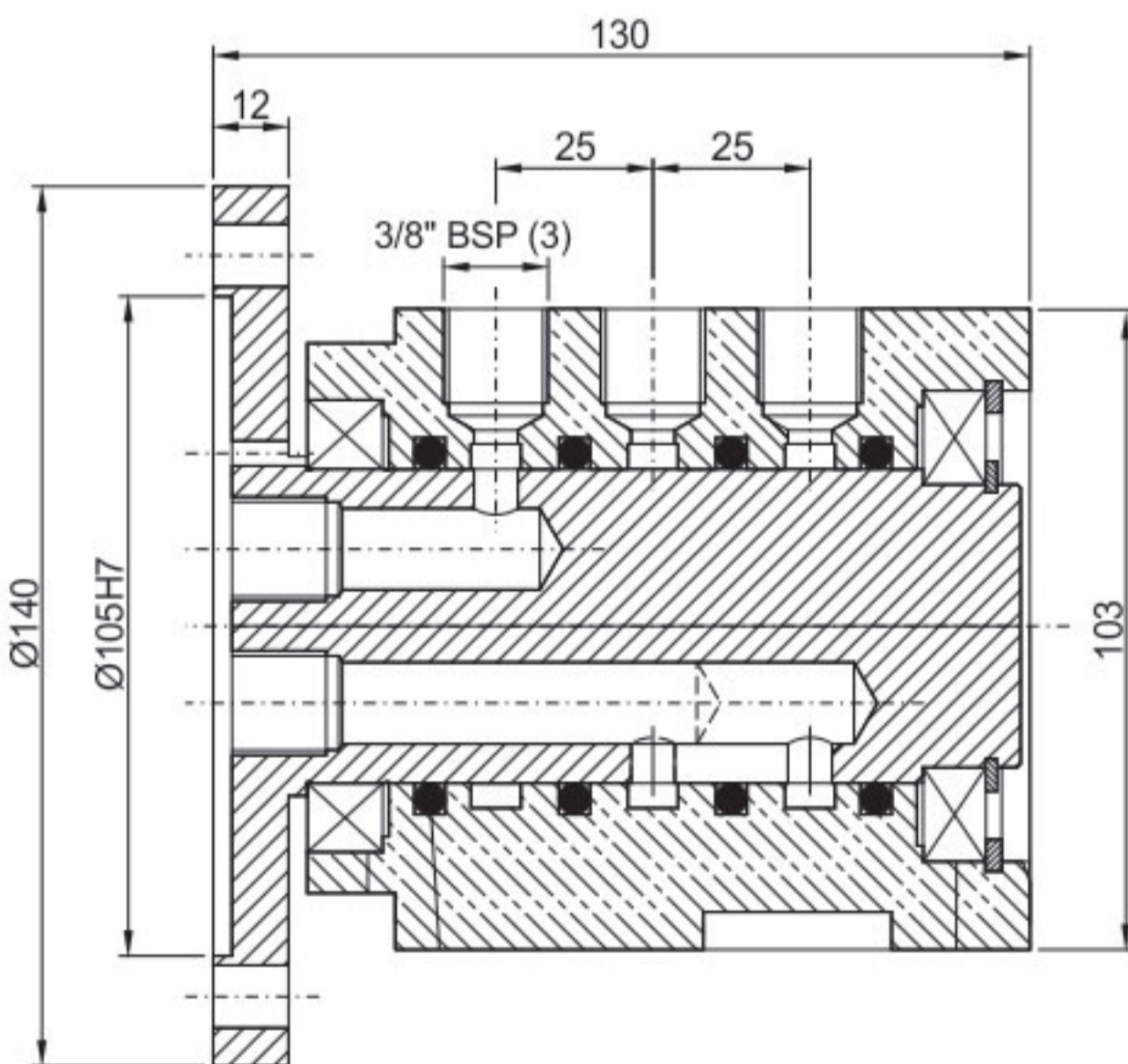
**DESIGN FEATURES**

- 3 PASSAGE DESIGN.
- SELF SUPPORTED ROTATING UNION.
- FLANGE MOUNTED DESIGN MAIN ROTOR.
- BRASS HOUSING / BODY.
- VITON SEALING.
- ELECTRO LESS PLATED ROTOR.
- INBUILT DOUBLE BEARING DESIGN FOR LONG TROUBLE FREE SERVICE.
- **DIRECTLY INTERCHANGEABLE WITH ANY OEM SELF SUPPORTED ROTARY UNION.**

**OPERATING DATA**

MAX. AIR PRESSURE	150 PSI
MAX. TEMPERATURE	175° F
MAX. SPEED	10 To 250 RPM

**SPECIFIC**



REF. NO.: 645-C-001

Subject to technical change without notice.







**6 PASSAGE AIR HYDRAULIC ROTARY UNIONS FOR BEAD APEXING MACHINES**

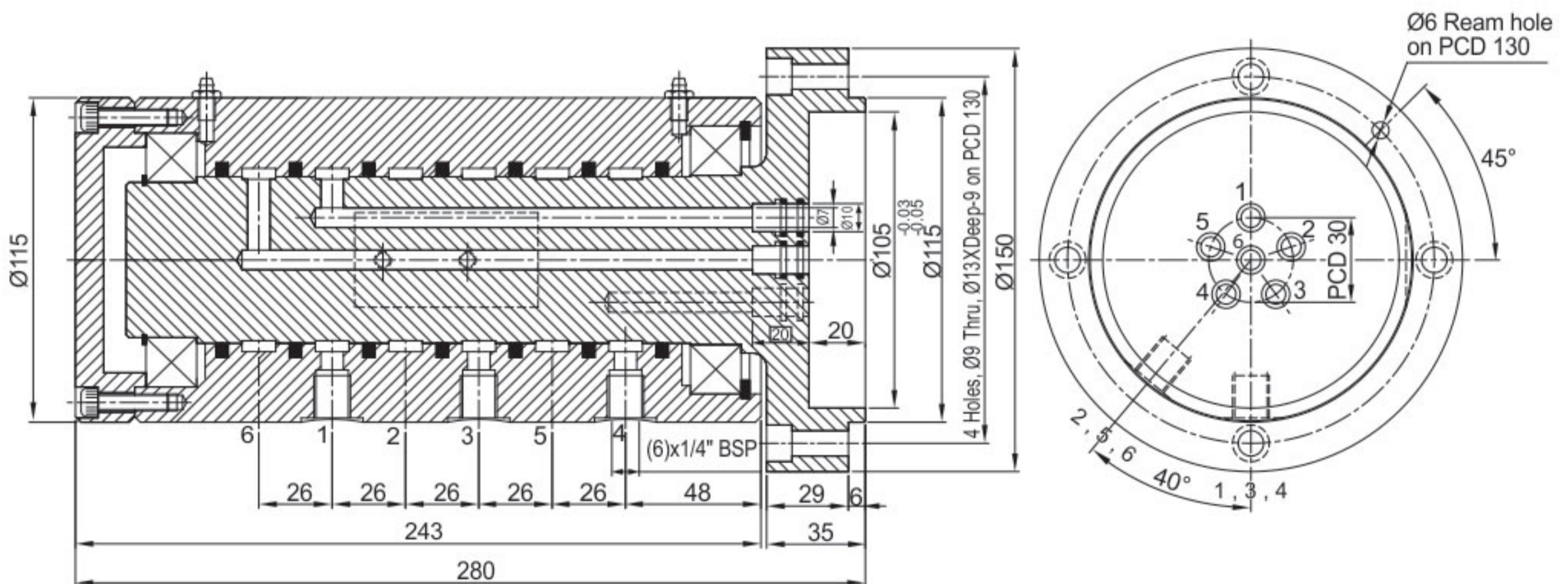


**DESIGN FEATURES**

- 6 PASSAGE DESIGN.
- SELF SUPPORTED ROTATING UNION.
- FLANGE MOUNTED DESIGN MAIN ROTOR.
- BRASS HOUSING / BODY.
- CARBON FILLED TEFLON SEAL.
- STAINLESS STEEL MAIN ROTOR WITH ELECTRO LESS PLATING.
- INBUILT DOUBLE BEARING DESIGN FOR LONG TROUBLE FREE SERVICE.
- **DIRECTLY INTERCHANGEABLE WITH ANY OEM SELF SUPPORTED ROTARY UNION.**

**OPERATING DATA**

MAX. AIR PRESSURE	150 PSI / 10 BAR
MIN. TEMPERATURE	175° F
MAX. SPEED	10 To 250 RPM



**MODEL: FDFM-06-06B-SPL**  
**REF. NO.: 805-C-061**

Subject to technical change without notice.

*Ideal for New as well as Easy Retrofit Installations...*



**9 PASSAGE AIR HYDRAULIC ROTARY UNIONS  
FOR TBR & TBM MACHINES**

**SPECIFIC**



**TYPE : FMMP**  
SIZE: (9)x1/2"

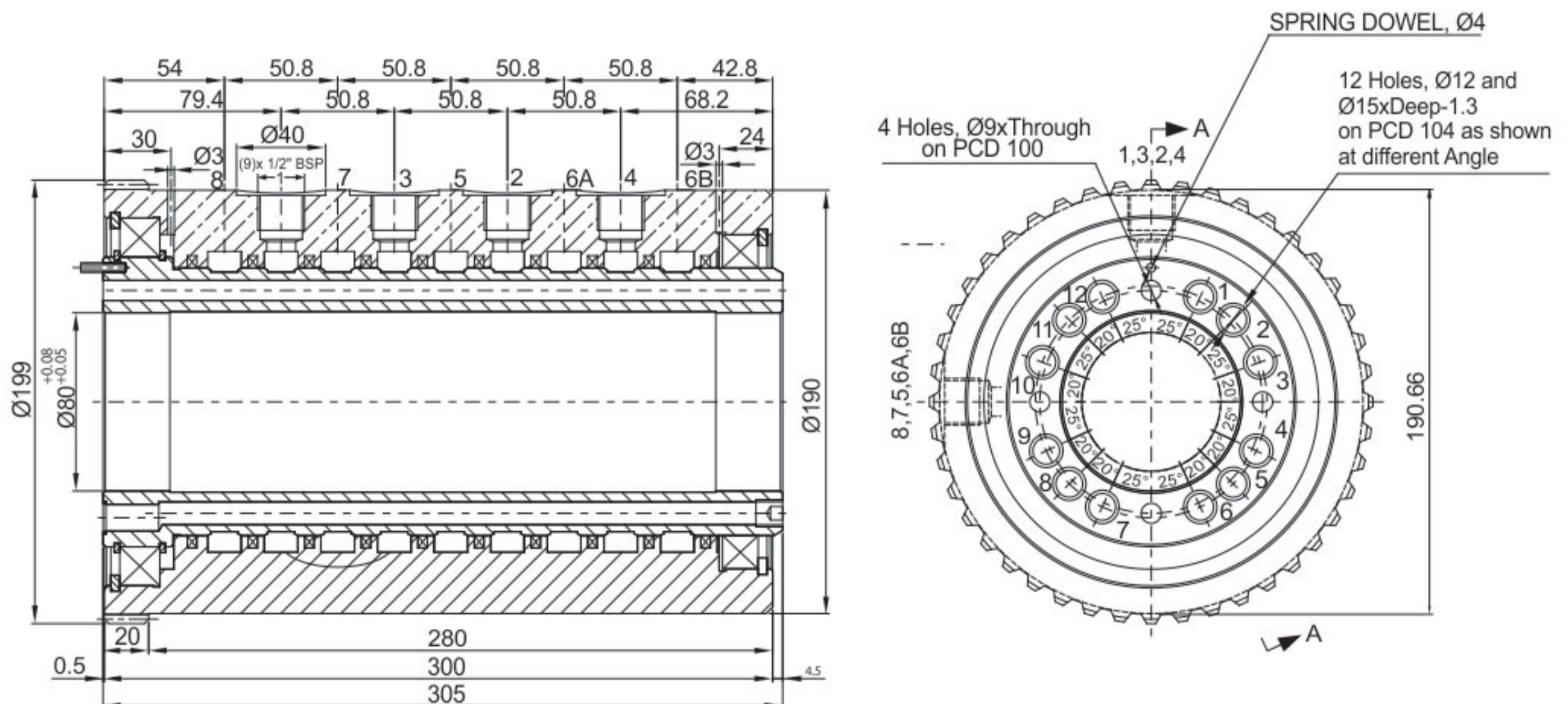
**DESIGN FEATURES**

- 9 PASSAGE AIR ROTARY UNION FOR TYRE INDUSTRIES IN TBR / TBM PROJECT.
- SELF SUPPORTED ROTATING UNION.
- ALUMINUM - 7075 HOUSING / BODY.
- A GEAR TYPE DRIVE PLATE MOUNTING DESIGN.
- CARBON FILLED TEFLON SEAL.
- STAINLESS STEEL MAIN ROTOR WITH ELECTRO LESS PLATING.
- INBUILT DOUBLE BEARING DESIGN FOR LONG TROUBLE FREE SERVICE.
- **DIRECTLY INTERCHANGEABLE WITH ANY OEM SELF SUPPORTED ROTARY UNION.**

**OPERATING DATA**

MAX. AIR PRESSURE	10kg / cm2
MIN. TEMPERATURE	80° C
MAX. SPEED	250 RPM

**SPECIFIC**



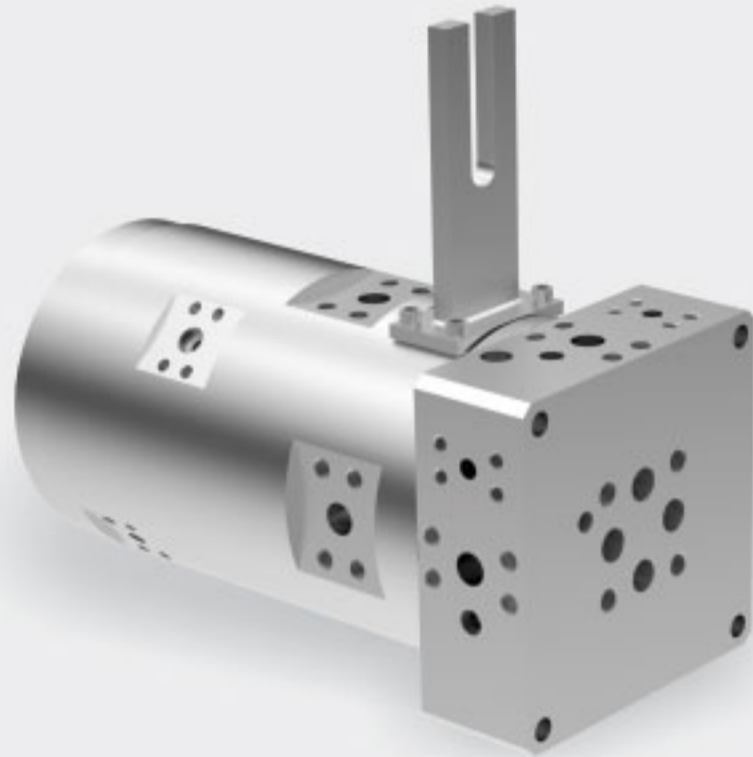
**MODEL: FDFM-09-15B-SPL**  
**REF. NO: 977-C-106**

Subject to technical change without notice.



**MULTI PASSAGE / PORT ( APPLICATION )  
ROTARY UNIONS**

**SPECIFIC**

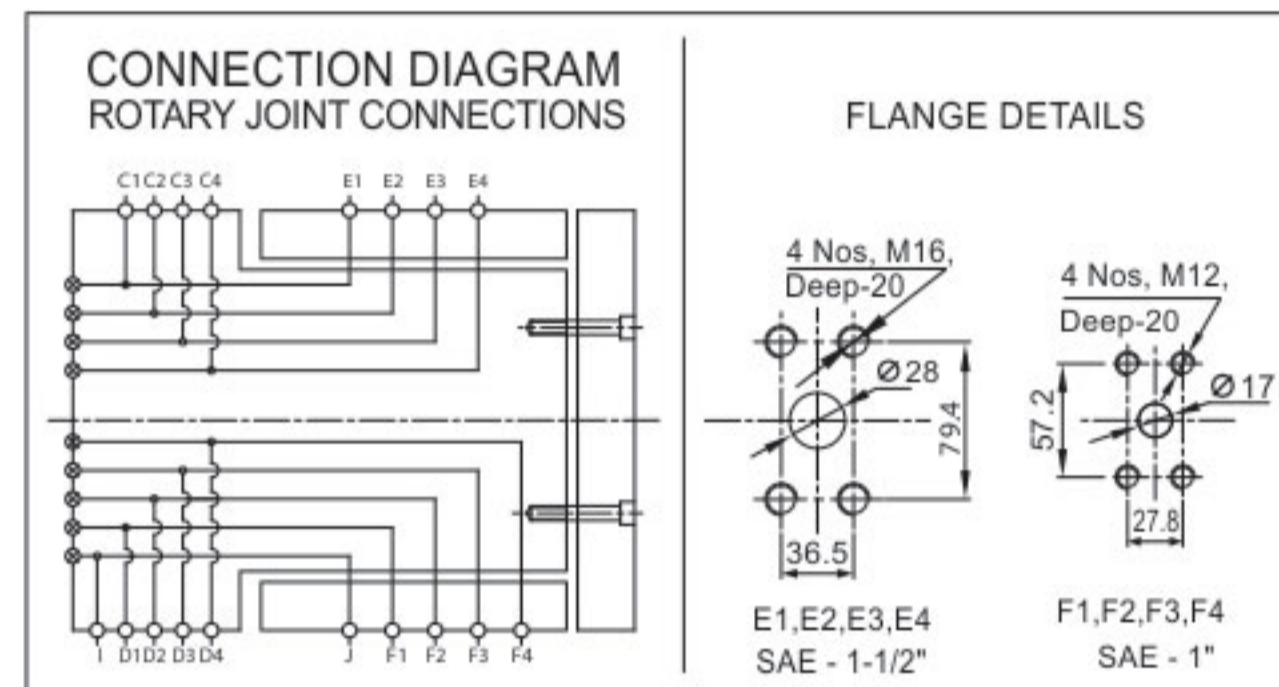


**TYPE : FMMP**

SIZE: 1-1/2" FLANGED & 1" FLANGED.

**EXAMPLE OF APPLICATIONS**

- HOT ROLLING, DOWN COILER
- COLD ROLLING
- TENSION, PAY OFF
- HIGH POWER PROCESS

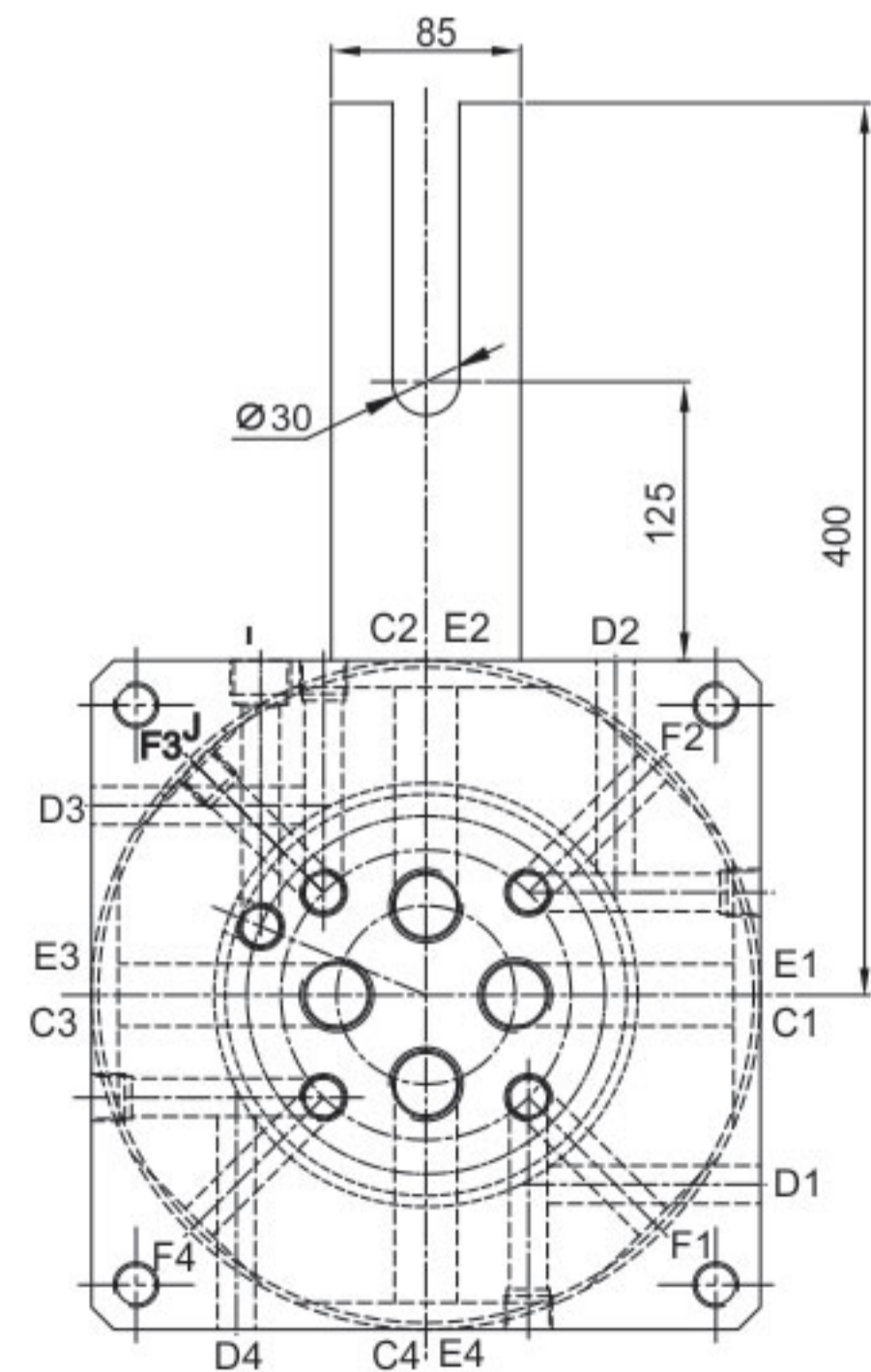
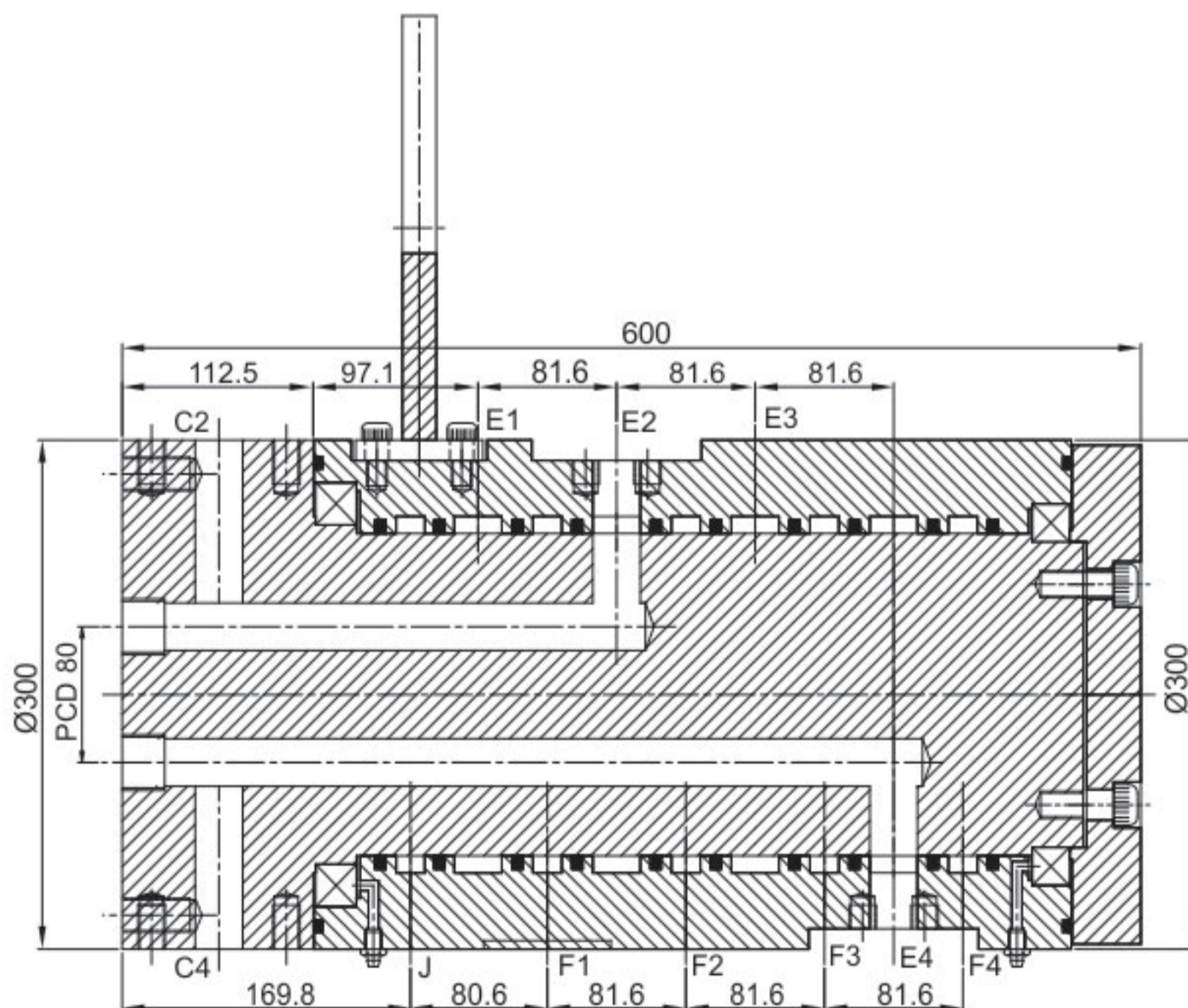


**OPERATING DATA**

MAX. TEMPERATURE	SUITABLE UP TO 175° F
MAX. HYDRAULIC PRESSURE	950 PSI / 65 BAR
TEST PRESSURE	1450 PSI / 100 BAR
MAX. SPEED	Suitable up to 15 RPM

**CONNECTIONS**

ROTOR	C1, C2, C3 & C4	SAE 1-1/2" - 38 (6000 PSI)
	D1, D2, D3 & D4	SAE 1" - 25 (6000 PSI)
STATOR	I	G3/4" BSP (F)
	E1, E2, E3 & E4	SAE 1-1/2" - 38 (6000 PSI)
	F1, F2, F3 & F4	SAE 1" - 25 (6000 PSI)
	J	G3/4" BSP (F)



**PART NO: FDFM-04-40F-04-25F-SPL**  
**REF. NO: 1313-C-005**

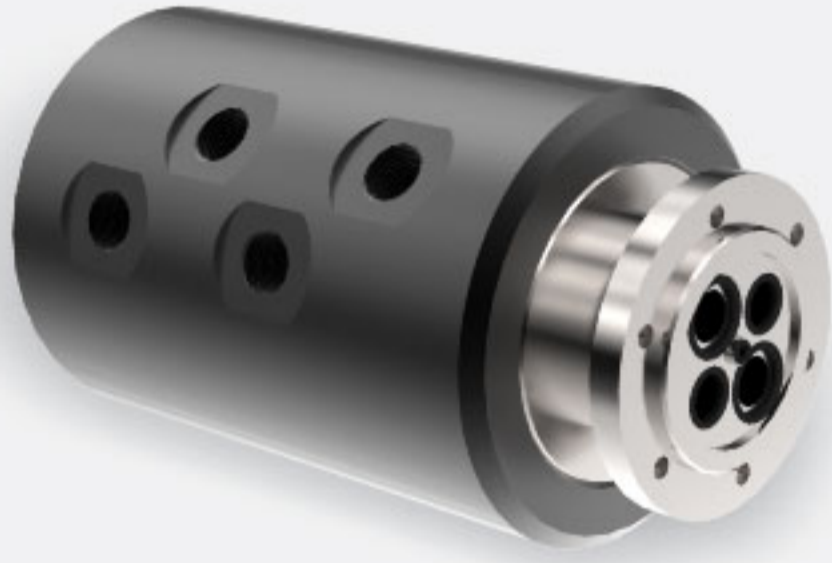
Subject to technical change without notice.





**4 PASSAGE AIR HYDRAULIC ROTARY UNIONS  
FOR PCR, TBM 12" - 16"**

**SPECIFIC**



**TYPE : FD 4000**

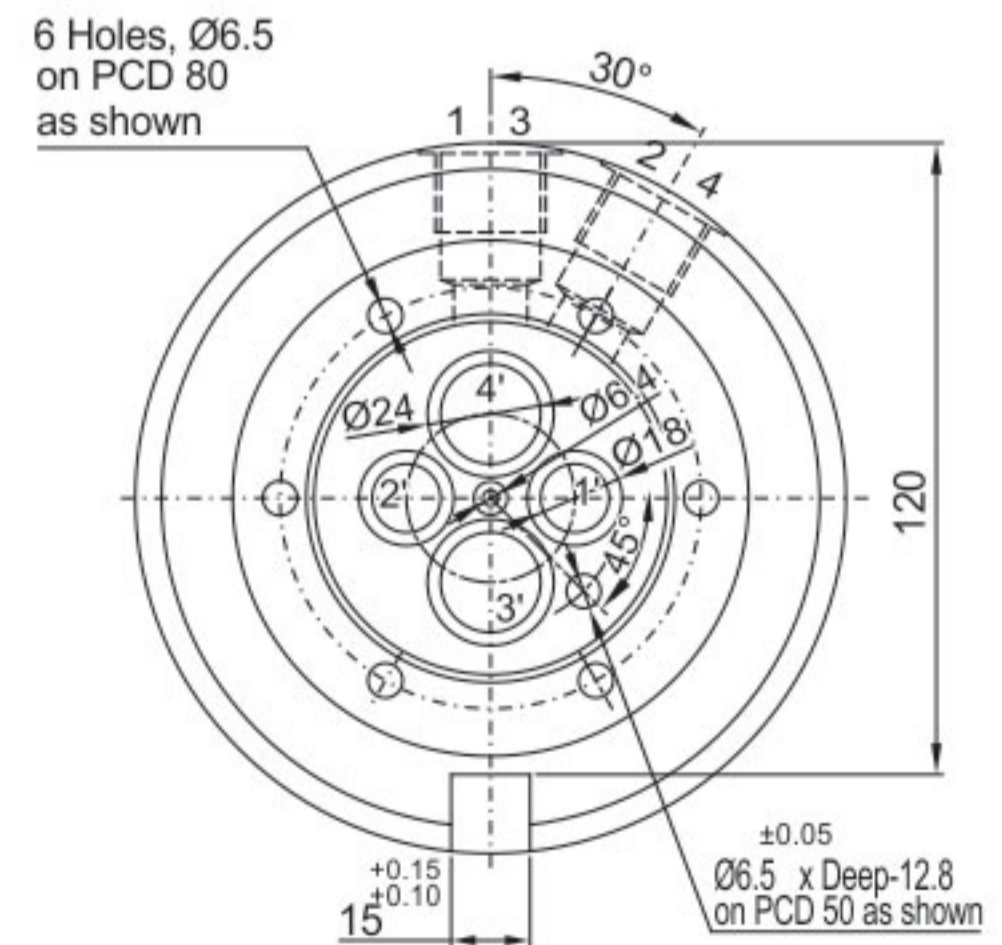
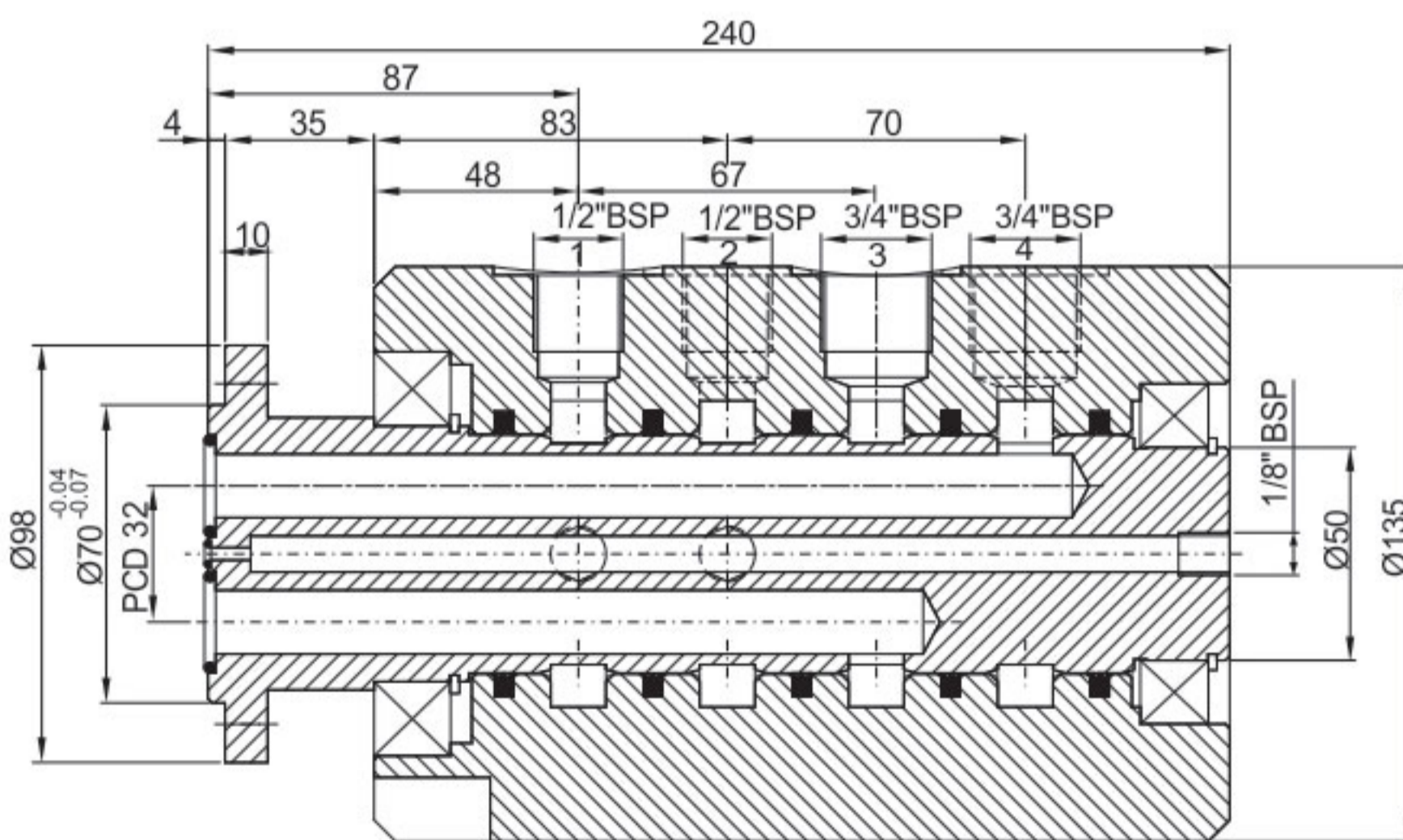
SIZES: (2) x 3/4", (2) x 1/2"

**DESIGN FEATURES**

- 4 PASSAGE AIR ROTARY UNIONS FOR TYRE INDUSTRIES IN PCR, TBM PROJECT.
- SELF SUPPORTED ROTATING UNION.
- FLANGED MOUNTED DESIGN MAIN ROTOR.
- ALUMINIUM HOUSING / BODY.
- FILLED PTFE SEALING.
- STAINLESS STEEL MAIN ROTOR ELECTRO LESS PLATING.
- INBUILT DOUBLE BEARING DESIGN FOR LONG TROUBLE FREE SERVICE.
- IDEALLY SUITABLE FOR PCR-TBM 12" - 16" IN RUBBER & TYRE MFG. UNIT.
- **DIRECTLY INTERCHANGEABLE WITH ANY OEM SELF SUPPORTED ROTARY UNION.**

**OPERATING DATA**

Max. Air Pressure	150 PSI
Max. Temperature	175° C
Max. Speed	10 TO 250 RPM



**MODEL: FD 4000-2015 BSP  
REF. NO.: 977-C-119**

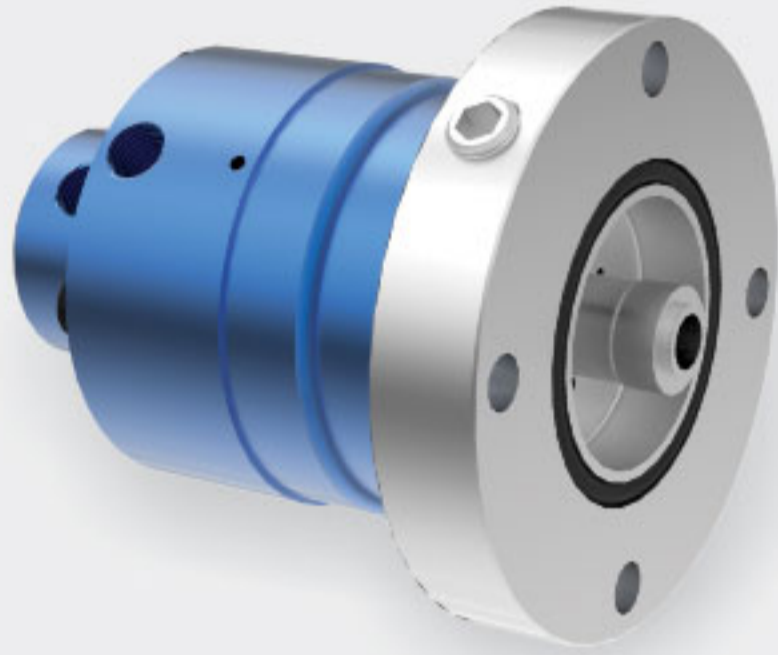
Subject to technical change without notice.

**SPECIFIC**



**DUAL PASSAGE AIR ROTARY UNIONS**

**SPECIFIC**



**TYPE : FDAF - DP**  
SIZE: 1/4"

**DESIGN FEATURES**

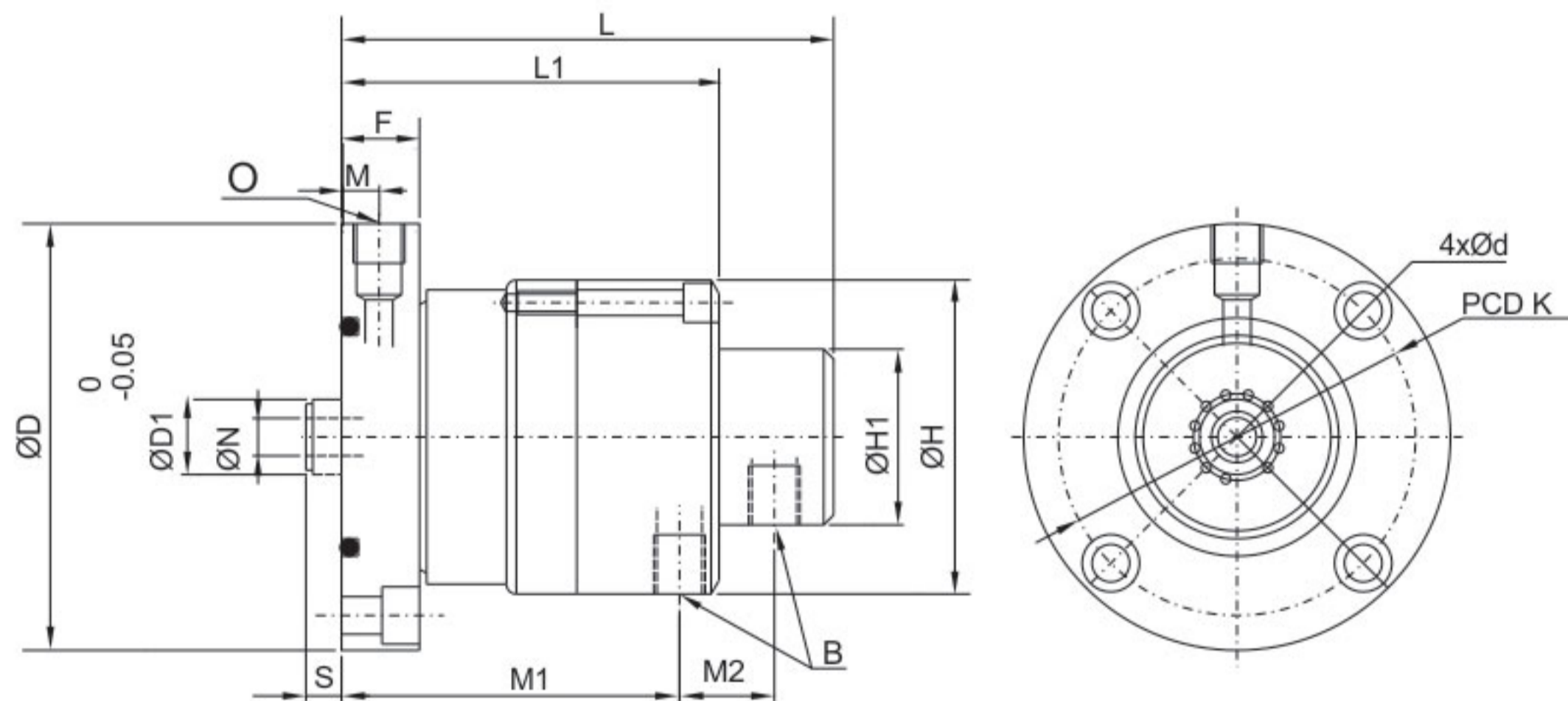
- THE ROTOR SEAL PROVIDES A RELIABLE MEANS OF TRANSFERRING A FLUID TO TWO ROTATING COMPONENTS ON THE SAME SHAFT. EACH PASSAGE CAN BE USED FOR A DIFFERENT FLUID IF DESIRED, FOR INSTANCE, AIR FOR CLUTCH ACTUATION AND OIL FOR BEARING LUBRICATION.

THE INLET PORTS HAVE STANDARD 1/4" PIPE THREADS. A 1/4" OUTLET PORT IN THE ROTOR SEAL FLANGE COULD BE USED TO FEED ONE OF THE SHAFT MOUNTED COMPONENTS. THE SECOND OUTLET DRILLING OF THE SHAFT.

- **DIRECTLY INTERCHANGEABLE WITH ANY OEM SELF SUPPORTED ROTARY UNION.**

**OPERATING DATA**

Max. Air Pressure	150 PSI
Min. Temperature	121° F
Max. Speed	1200 RPM



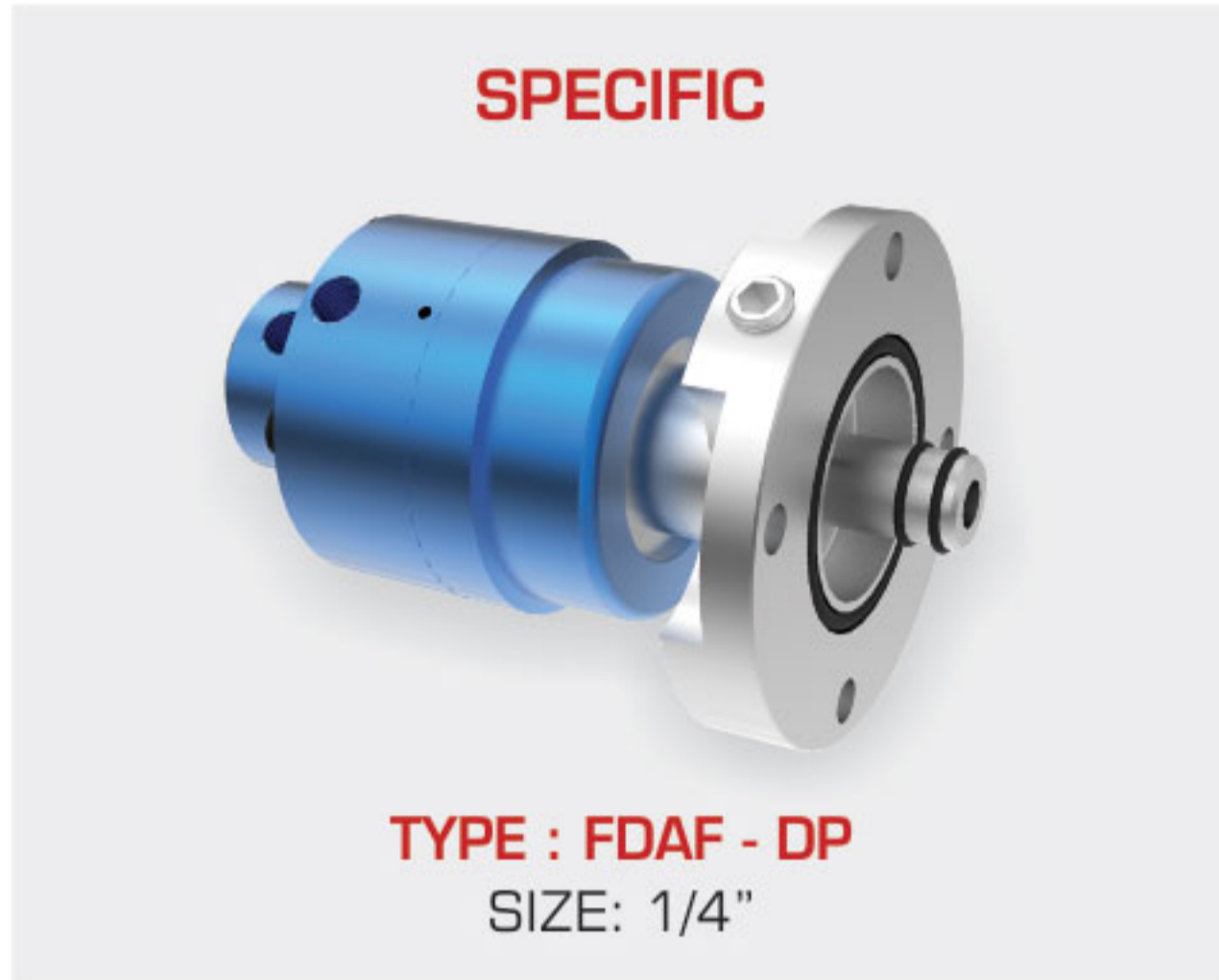
**PART NO.: FDAF-DP 82124**

FOURWENTS MODEL NO.	'B' PORT NPT	L	L1	F	ØD	$\begin{matrix} 0 \\ -0.05 \\ \text{ØD1} \end{matrix}$	ØH	ØH1	K	Ød	M	M1	M2	ØN	$\begin{matrix} 0 \\ \text{NPT} \end{matrix}$	S
FDAF-DP 82124	(2) x 1/4"	124	95.5	19	108	19.05	82.5	44.5	90.5	$\begin{matrix} (4) \times \\ \text{Ø}10.5 \end{matrix}$	9.5	85	28.5	9.5	1/4"	10

Subject to technical change without notice.



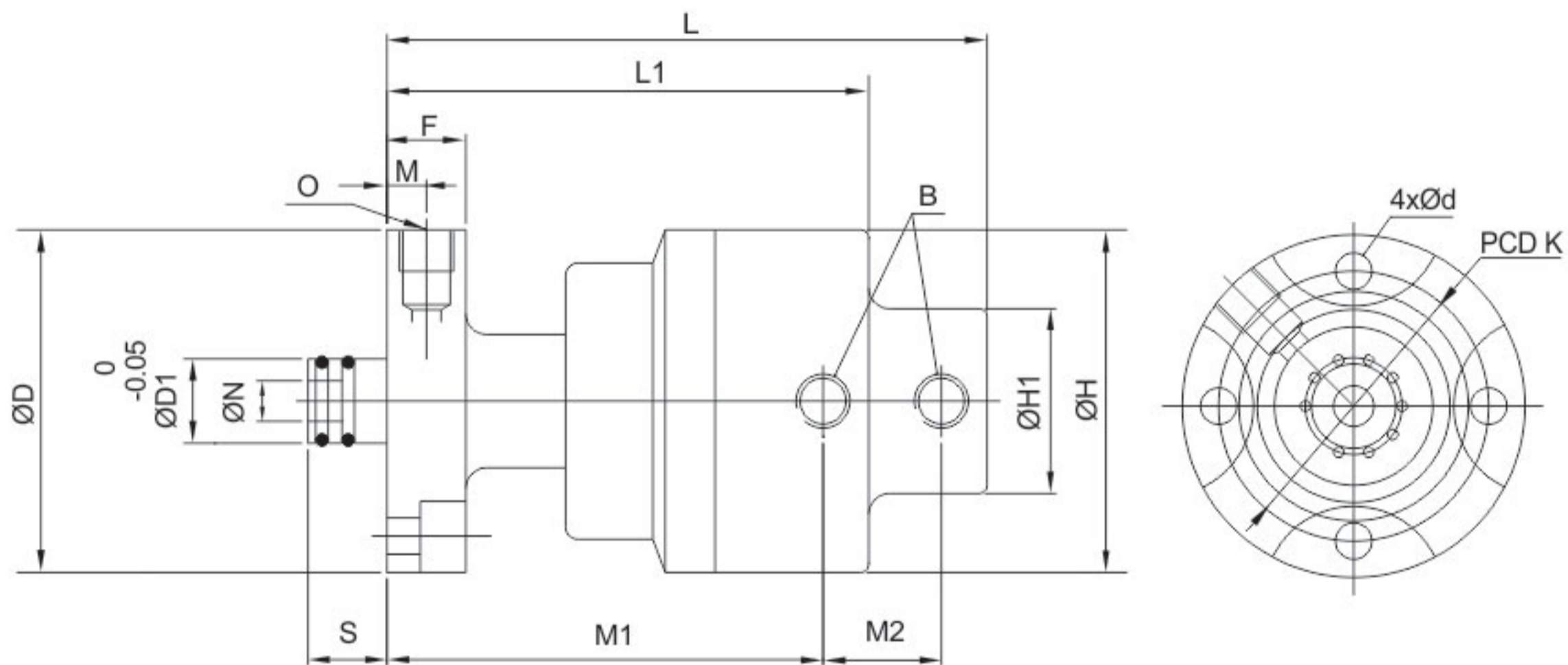
**DUAL PASSAGE AIR / OIL ROTARY UNIONS**



**DESIGN FEATURES**

- YOUR APPLICATION MAY INVOLVE THE SAME CONDITIONS AS THE FDAF- DP 82124 ROTOR SEAL, BUT YOU MAY REQUIRE A SMALLER DIAMETER MOUNTING FLANGE. THE TYPE: FDAF - DP 82145 ROTOR SEAL WILL FILL YOUR NEEDS. A 1/4" INLET PORT IS PROVIDED ON THE ROTO SEAL BODY FOR EACH OF THE PASSAGES. BOTH PASSAGES CAN DISCHARGE DIRECTLY INTO THE ROTATING SHAFT IN YOUR MACHINERY. HOWEVER, A 1/4" PORT ON THE MOUNTING FLANGE PROVIDES AS OPTIONAL OUTLET FOR THE OUTER PASSAGE.
- **DIRECTLY INTERCHANGEABLE WITH ANY OEM SELF SUPPORTED ROTARY UNION.**

OPERATING DATA	
MAX. AIR PRESSURE	150 PSI
MIN. TEMPERATURE	121° F
MAX. SPEED	1200 RPM



**PART NO.: FDAF-DP 82145**

FOURWENTS MODEL NO.	'B' PORT NPT	L	L1	F	ØD	$\begin{matrix} 0 \\ -0.05 \\ \text{ØD1} \end{matrix}$	ØH	ØH1	K	Ød	M	M1	M2	ØN	$\begin{matrix} 0 \\ \text{NPT} \end{matrix}$	S
FDAF-DP 82145	(2) x 1/4"	145	116	19	82.5	20.27	82.5	44.5	65	(4)xØ9	9.5	105	28.5	9.5	1/4"	19

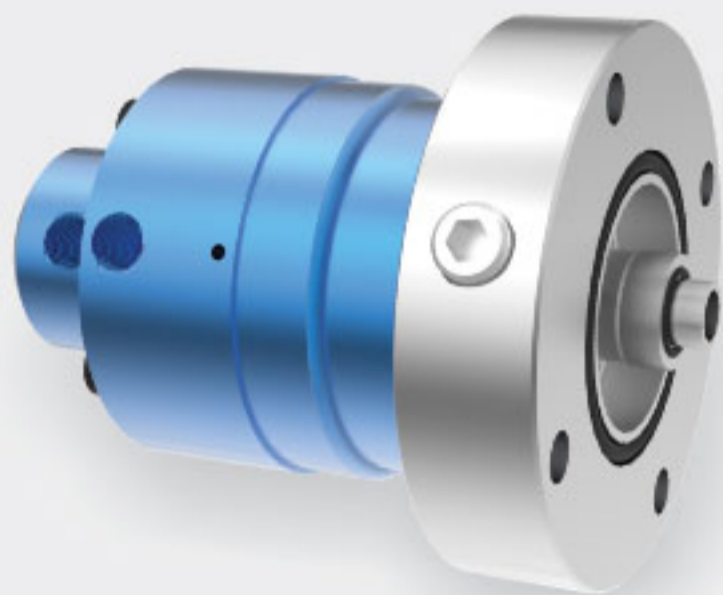
Subject to technical change without notice.

**SPECIFIC**



**DUAL PASSAGE AIR ROTARY UNIONS**

**SPECIFIC**



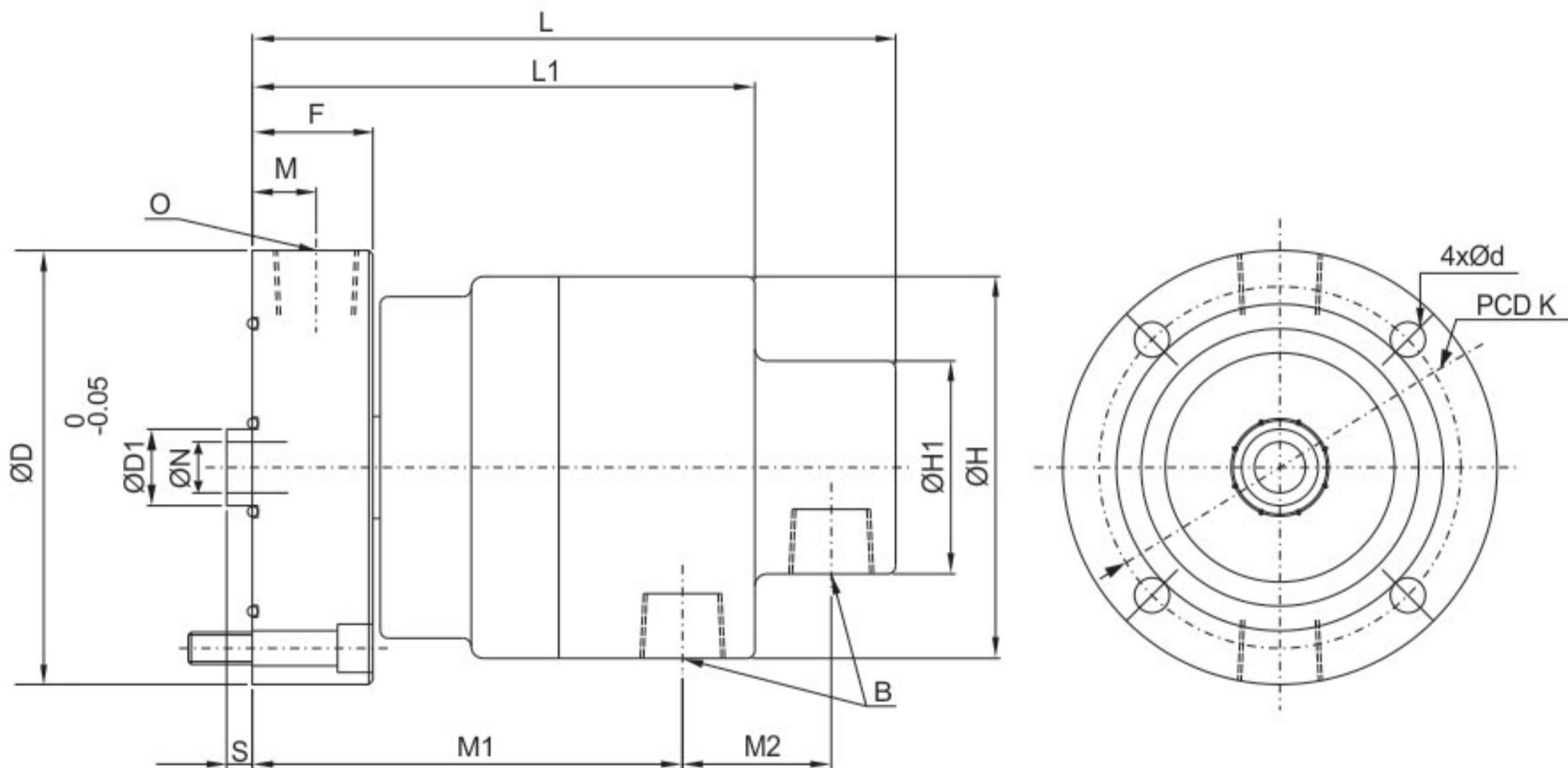
**TYPE : FDAF - DP**  
SIZE: 1/2"

**DESIGN FEATURES**

- THE FDAF - DP 95180 ROTOR SEAL WAS DESIGNED TO HANDLE LARGER VOLUMES THEN THE FDAF - DP 82124 TYPE. ONE 1/2" PIPE INLET PORT IS PROVIDED FOR EACH OF TWO CONCENTRIC FLUID PASSAGE. THE CENTER PASSAGE DISCHARGES DIRECTLY INTO THE ROTATING SHAFT. THE OUTER PASSAGE DISCHARGES INTO THE ROTATING SHAFT OR THROUGH A 1/2" PORT IN THE MOUNTING FLANGE.
- **DIRECTLY INTERCHANGEABLE WITH ANY OEM SELF SUPPORTED ROTARY UNION.**

**OPERATING DATA**

Max. Air Pressure	150 PSI
Min. Temperature	121° F
Max. Speed	1000 RPM



**PART NO : FDAF-DP 95180**  
**REF.NO.: 654-C-003**

FOURWENTS MODEL NO.	'B' PORT NPT	L	L1	F	ØD	$\begin{matrix} 0 \\ -0.05 \\ \text{ØD1} \end{matrix}$	ØH	ØH1	K	Ød	M	M1	M2	ØN	$\begin{matrix} 0 \\ \text{NPT} \end{matrix}$	S
FDAF-DP 95180	(2) x 1/2"	160	125	30	108	19.05	95	52.5	90.5	(4)x Ø10.5	16	107	37	12.7	(2)x 1/2"	6.35

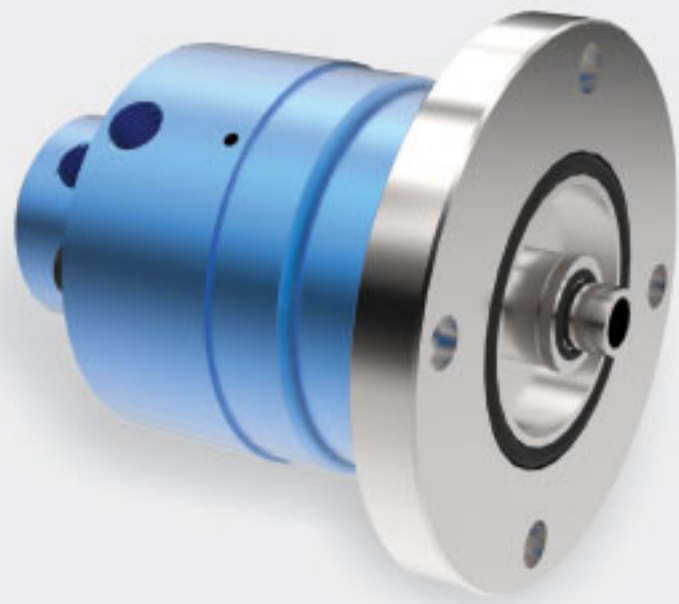
Subject to technical change without notice.

**SPECIFIC**



**DUAL PASSAGE AIR ROTARY UNIONS**

**SPECIFIC**



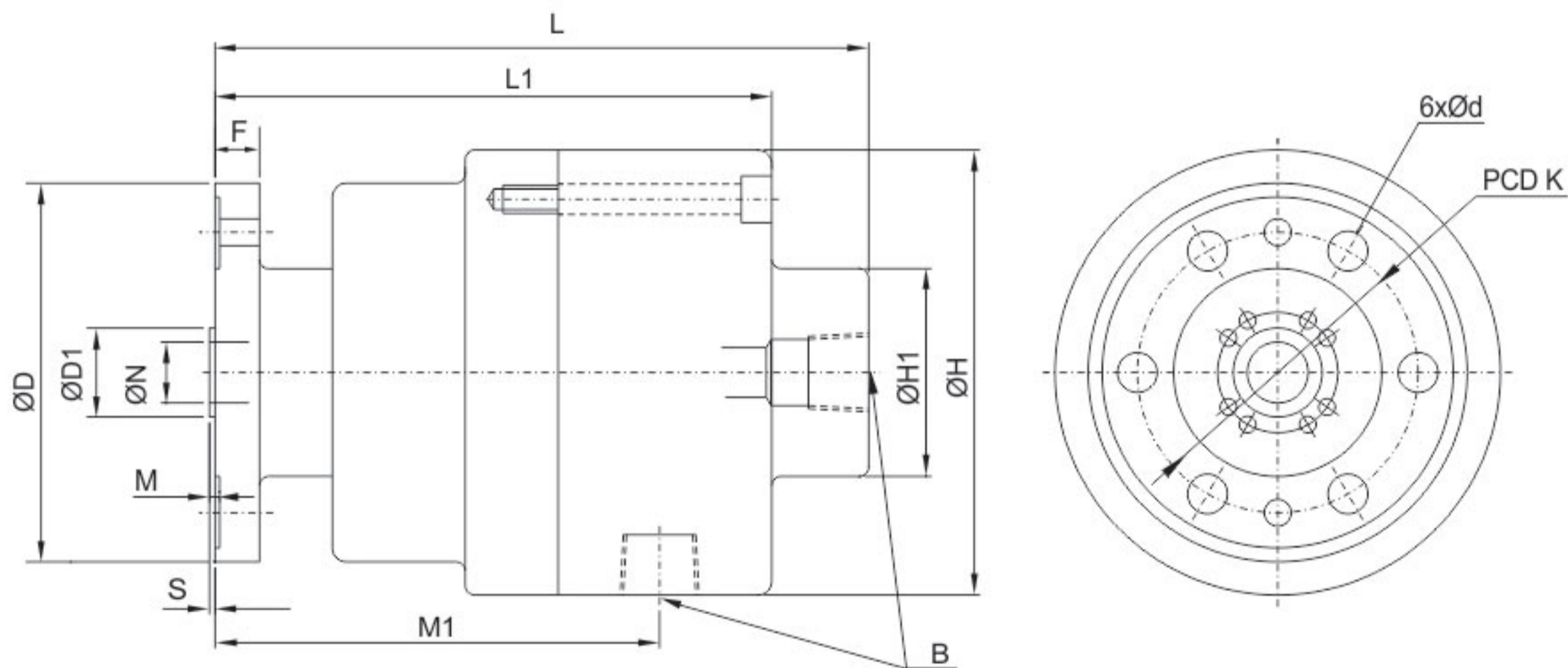
**TYPE : FDAF - DP**  
SIZE: 1/2"

**DESIGN FEATURES**

- THE TYPE: FDAF - DP 95140 ROTOR SEAL, WHEN COMPARED TO TYPE : FDAF - DP 95180 HAS A SMALLER MOUNTING FLANGE DIAMETER AND IS SHORTER IN LENGTH. IN ALL OTHER ASPECTS, IT IS DESIGNED FOR THE SAME SERVICE CONDITIONS.
- **DIRECTLY INTERCHANGEABLE WITH ANY OEM SELF-SUPPORTED ROTARY UNION.**

**OPERATING DATA**

MAX. AIR PRESSURE	150 PSI
MIN. TEMPERATURE	121° F
MAX. SPEED	1000 RPM



**PART NO : FDAF-DP 95140**

FOURWENTS MODEL NO.	'B' PORT NPT	L	L1	F	ØD	$\begin{matrix} 0 \\ -0.05 \\ \text{ØD1} \end{matrix}$	ØH	ØH1	K	Ød	M	M1	M2	ØN	$\begin{matrix} 0 \\ \text{NPT} \end{matrix}$	S
FDAF-DP 95140	(2) x 1/2"	140	119	9.5	81	19.05	95	44.5	60.3	(6)xØ9	0.165	88	----	12.7	----	0.038

Subject to technical change without notice.

**SPECIFIC**



**TRIPLE PASSAGE FLANGE MOUNTED ROTARY UNIONS**

**SPECIFIC**



**TYPE : FDAF-TP**  
SIZES : (3)x1/2"

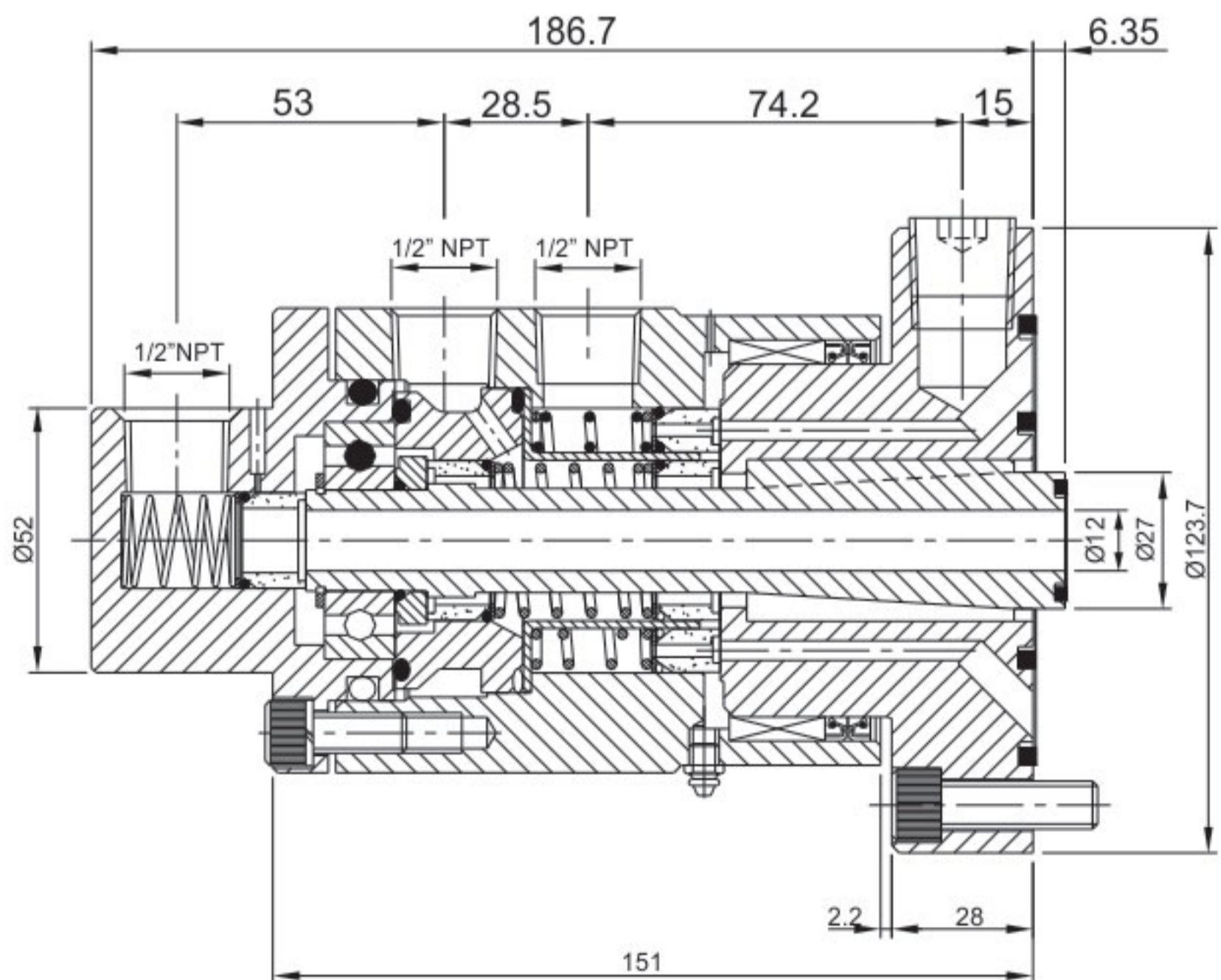
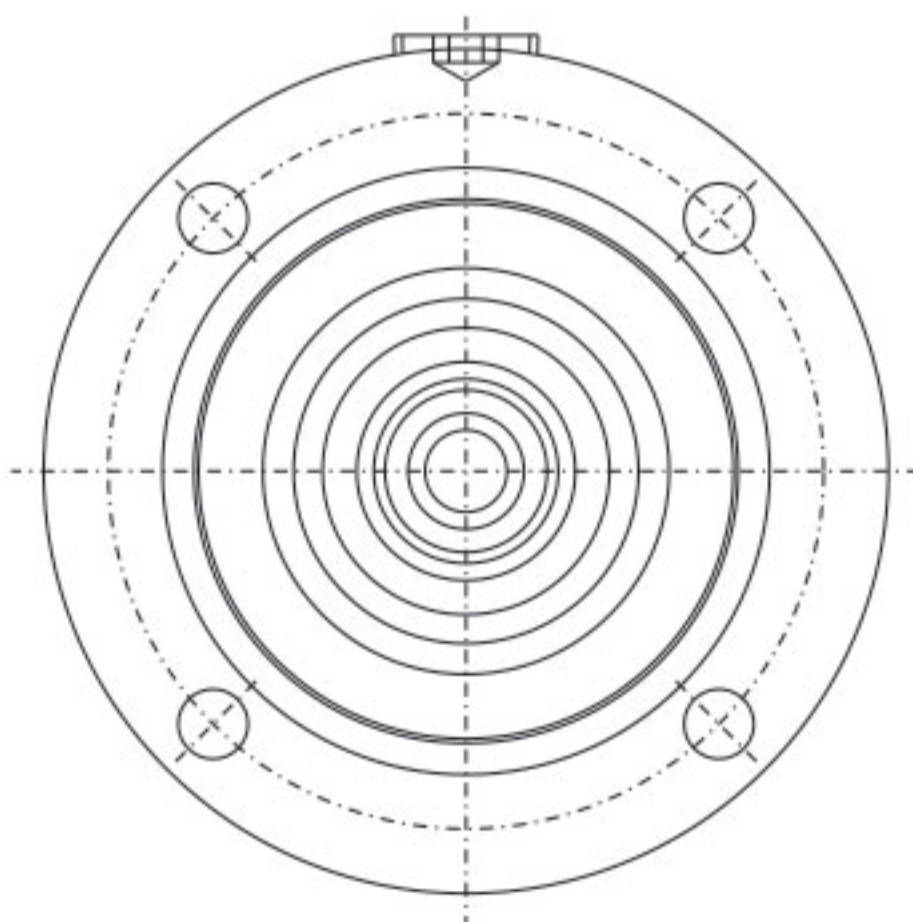
**DESIGN FEATURES**

- DESIGNED FOR TRANSFER OF AS MANY AS THREE DIFFERENT FLUIDS.
- A MOUNTING FLANGE SIMPLIFIES INSTALLATION TO THE SHAFT ENDS.
- ALL THREE PASSAGE CAN DISCHARGE DIRECTLY INTO THE ROTATING SHAFT.
- MAIN BODY/ HOUSING MADE OUT FROM SPECIAL ALUMINIUM ALLOY.
- MAIN ROTOR SHAFT ASSEMBLY MADE OUT FROM HARDENED STEEL.
- COMPACT BALANCED MICRO-LAPPED MECHANICAL SEALING IN CARBON V/S SILICON CARBIDE COMBINATIONS AS WELL AS HARD FACING.
- STAINLESS STEEL SPRING.
- SPECIALLY DESIGNED COMBINATION OF BALL AND NEEDLE ROLLER BEARINGS.
- OTHER SEALINGS OF SPECIAL POLYMERS.
- **DIRECTLY INTERCHANGEABLE WITH ANY OTHER OEM SELF SUPPORTED ROTARY UNIONS.**

**OPERATING DATA**

MAX. AIR PRESSURE	150 PSI
MAX. SPEED	1000 RPM

SPECIFIC

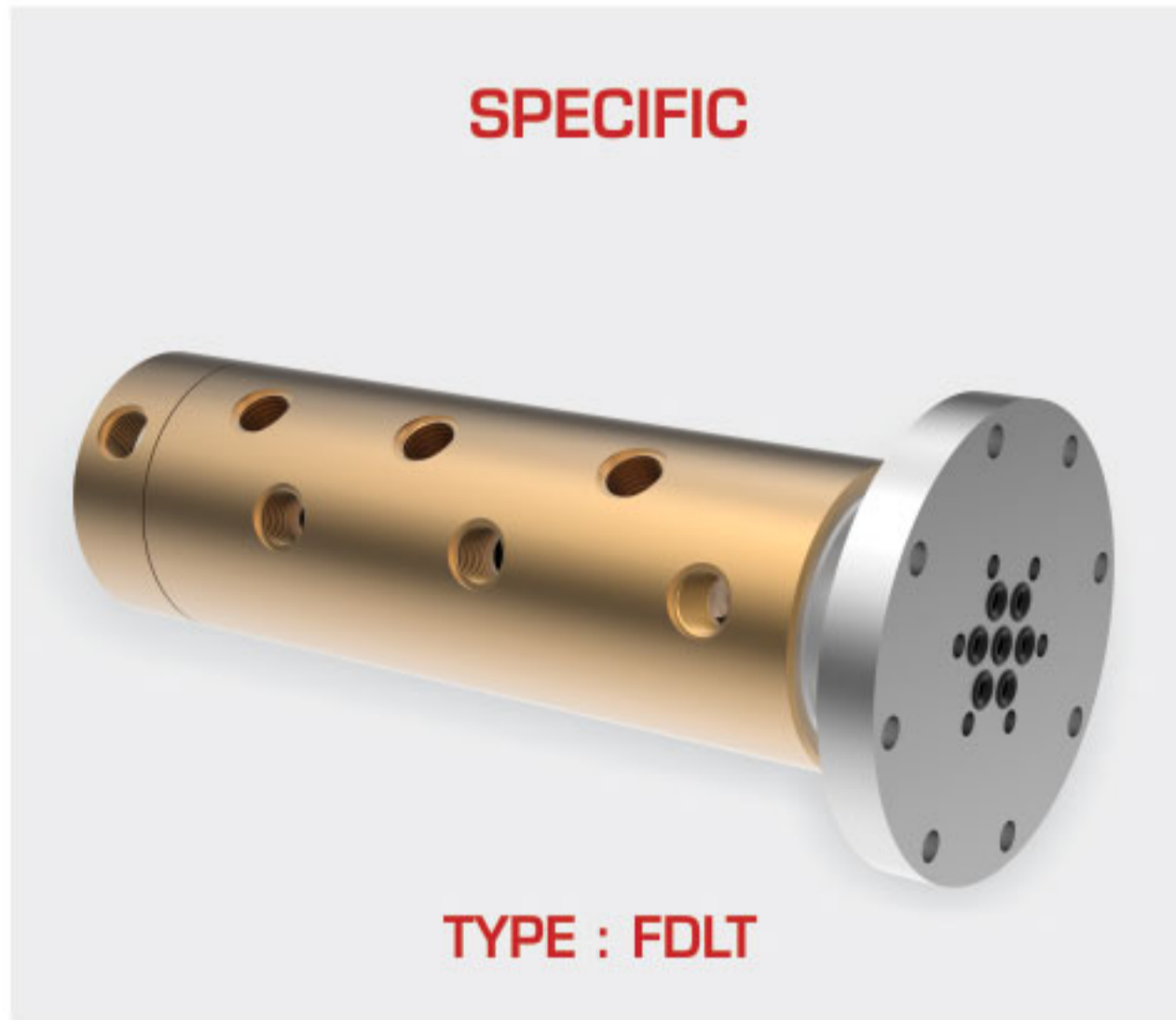


PART NO: FDAF-TP 92186  
REF. NO.: 977-C-024

Subject to technical change without notice.



**7 PASSAGE ROTARY UNION ( 3 PASSAGE ) FOR  
COMPRESSED AIR & ( 4 PASSAGE ) FOR HYDRAULIC OIL**



**PART NO: FDLT- SP0152**

**DESIGN FEATURES**

- BALL BEARING DESIGN.
- FLANGE TYPE.
- FEATURE A CUSTOMER SPECIFIED DESIGN FOR INTEGRATION IN TO A ROTARY TABLE AND HIGH FLOW VOLUME.

**OPERATING DATA**

MEDIA	HYDRAULIC OIL	COMPRESSED AIR
MAX. PRESSURE	2900 PSI / 210 BAR	145 PSI / 10 BAR
MAX. TEMPERATURE	160° F / 80° C	160° F / 80° C
MAX. SPEED	600 RPM (600/min)	500 RPM (500/min)

**10 PASSAGE HYDRAULIC ROTARY UNIONS  
FOR IN COMBINATION SERVICES OF OIL & AIR**



**PART NO: FDLT- SP0202**

**DESIGN FEATURES**

- SERVICE OF HYDRAULIC OIL & AIR APPLICATION.
- CENTRAL BORE FOR FURTHER CONNECTIONS.
- BALL BEARING SUPPORTED DESIGN.
- FLANGE TYPE.
- RADIAL HOUSING PORTS G 3/4" ( ALSO AVAILABLE IN 1/2" UP TO 1" )
- APPLICATION IN TURN TABLE & TURRET IN STEEL PLANT.

**OPERATING DATA**

MEDIA	HYDRAULIC OIL	COMPRESSED AIR
MAX. PRESSURE	3045 PSI / 210 BAR	145 PSI / 10 BAR
MAX. TEMPERATURE	160° F / 80° C	160° F / 80° C
MAX. SPEED	10 RPM (10/min-1)	10 RPM (10/min-1)

Subject to technical change without notice.



**10 PASSAGE HYDRAULIC ROTARY UNIONS FOR IN COMBINATION SERVICES OF OIL , ARGON, AIR & WATER**

**SPECIFIC**



**TYPE : FDLT**

**FOR LADLE TURRET APPLICATIONS IN CONTINUOUS CASTING OPERATIONS IN STEEL PLANTS**

**DESIGN FEATURES**

- LADLE TURRETS REQUIRE HEAVY-DUTY MULTI PASSAGE UNIONS THAT IS SUITABLE TO SUPPORT THE HYDRAULIC LIFTING OF THE LADLE FOR EACH POUR OF MOLTEN METAL.
- 'FOURWENTS' LADLE TURRETS ROTARY UNIONS DESIGNED FOR MULTIPLE MEDIA APPLICATION INCLUDING HYDRAULIC OIL, ARGON, AIR AND WATER.

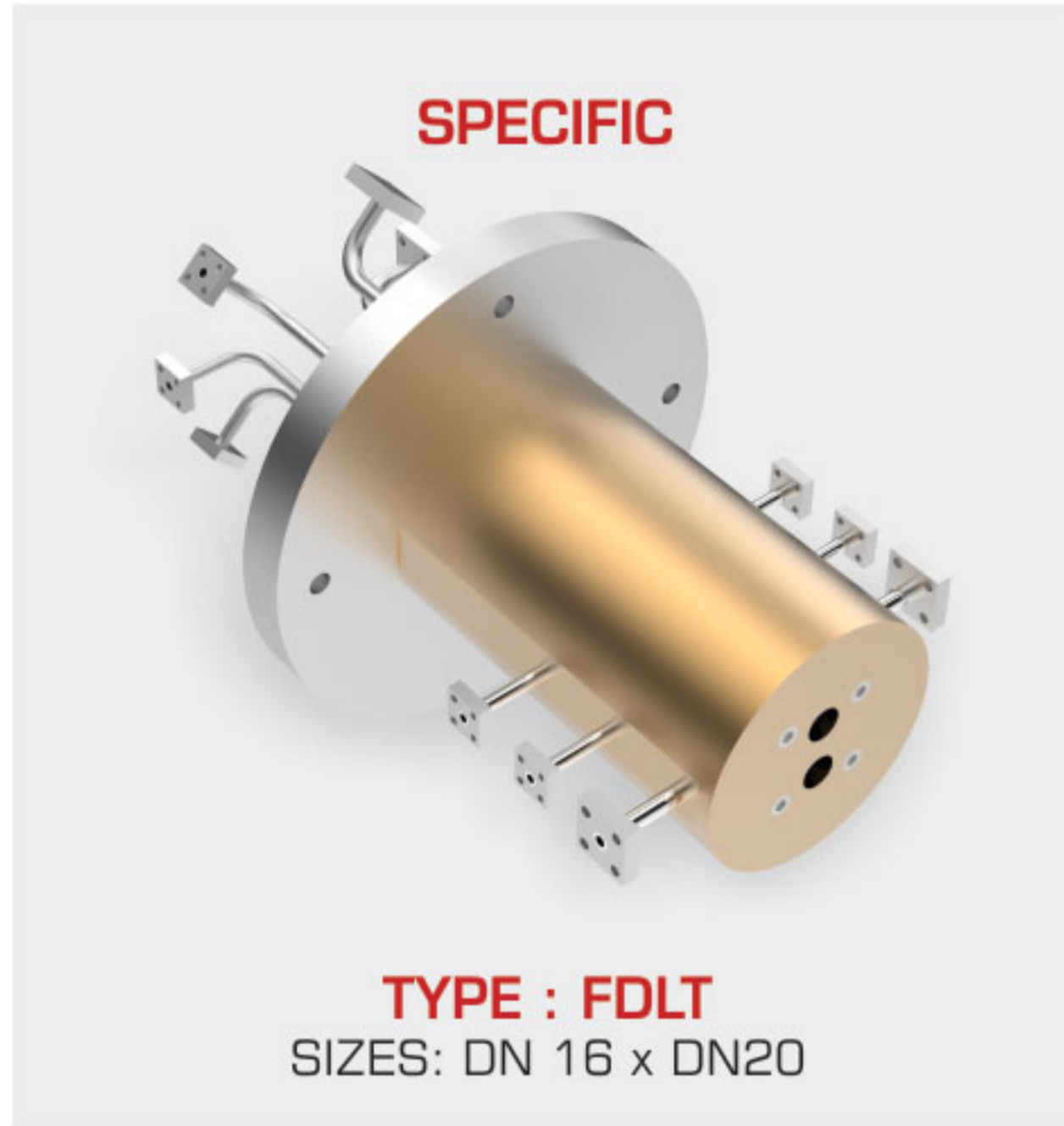
**OPERATING DATA**

MEDIA	ARGON		WATER		AIR		HYDRAULIC OIL	
	MAX. PRESSURE	150 PSI	10 BAR	300 PSI	20 BAR	150 PSI	10 BAR	3625 PSI
MAX. TEMPERATURE	250 ° F / 120 ° C							
MAX. SPEED	20 RPM							

Subject to technical change without notice.

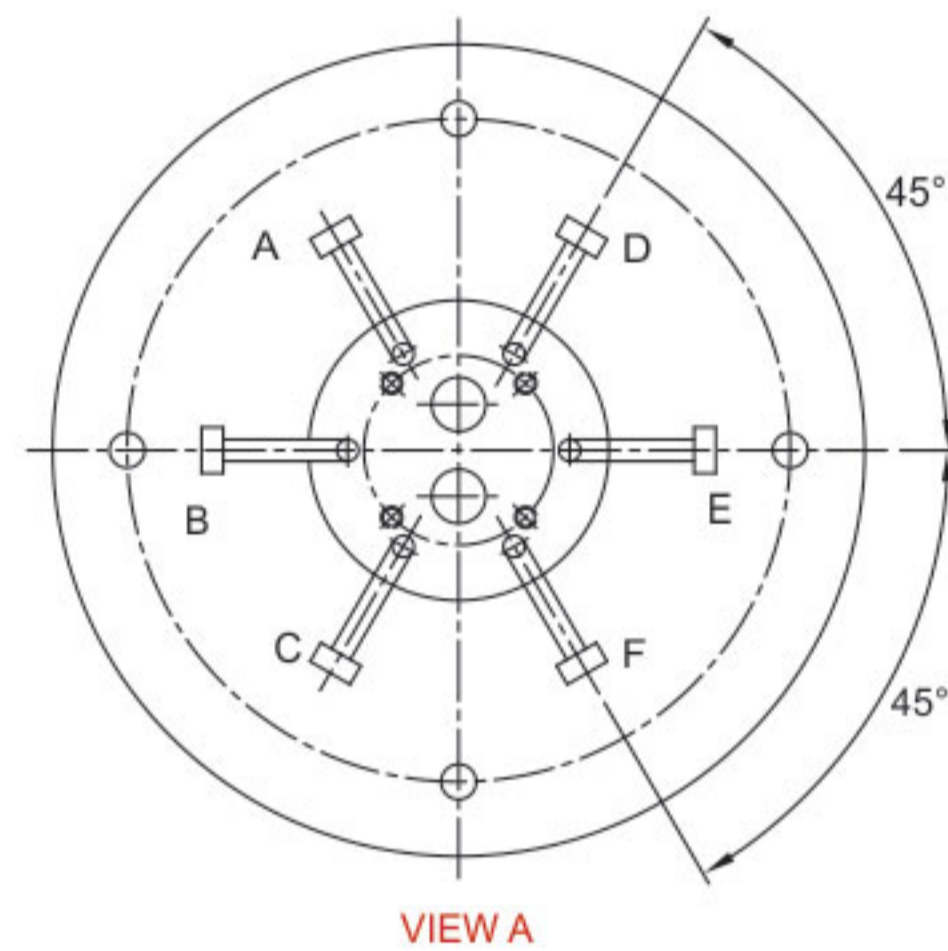


**6 PASSAGE HYDRAULIC ROTARY UNIONS**

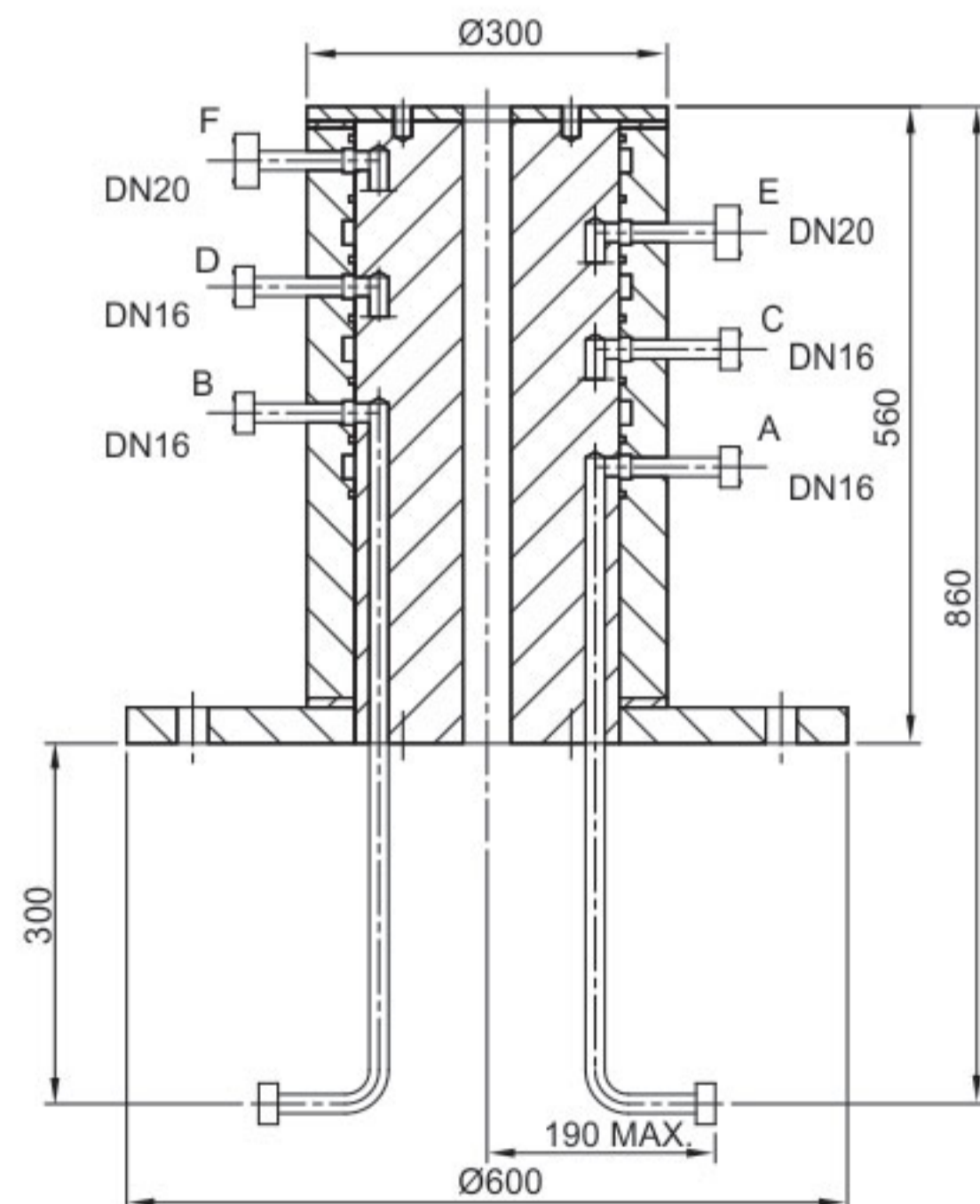


**DESIGN FEATURES**

- CENTRAL BORE FOR FURTHER CONNECTIONS.
- FLANGE VERSION.
- RADIAL HOUSING PORTS : DN 16 X DN 20



(SHOWING CONNECTION ON ROTATING PART)



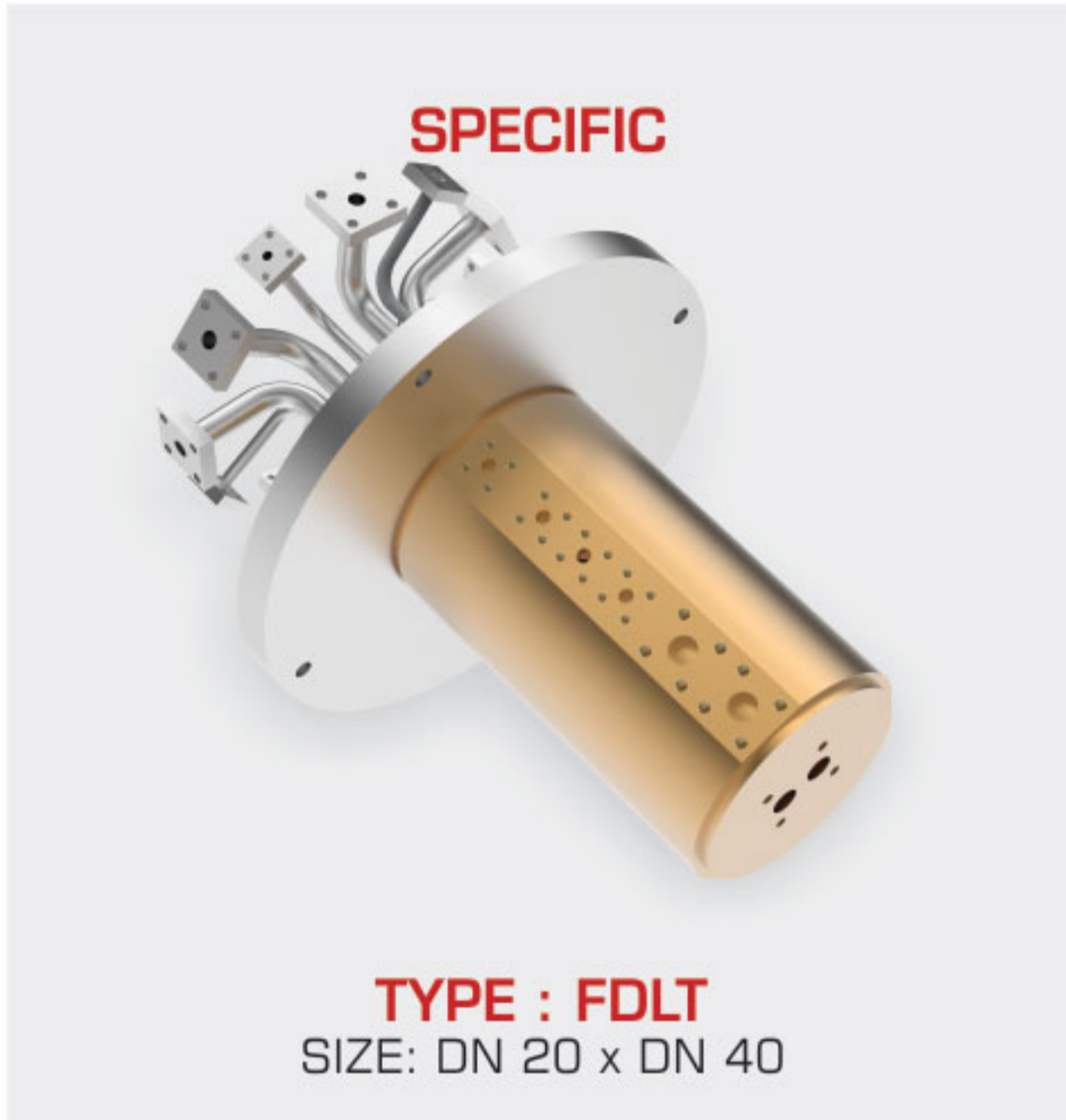
Subject to technical change without notice.

OPERATING DATA				
MEDIA	HYDRAULIC OIL		COMPRESSED AIR	
MAX. PRESSURE	3625 PSI	250 BAR	145 PSI	10 BAR
MAX. TEMPERATURE	176° F	80° C	176° F	80° C
MAX. SPEED	10 RPM	10 RPM	10 RPM	10 RPM

REF. NO: 523-C-003

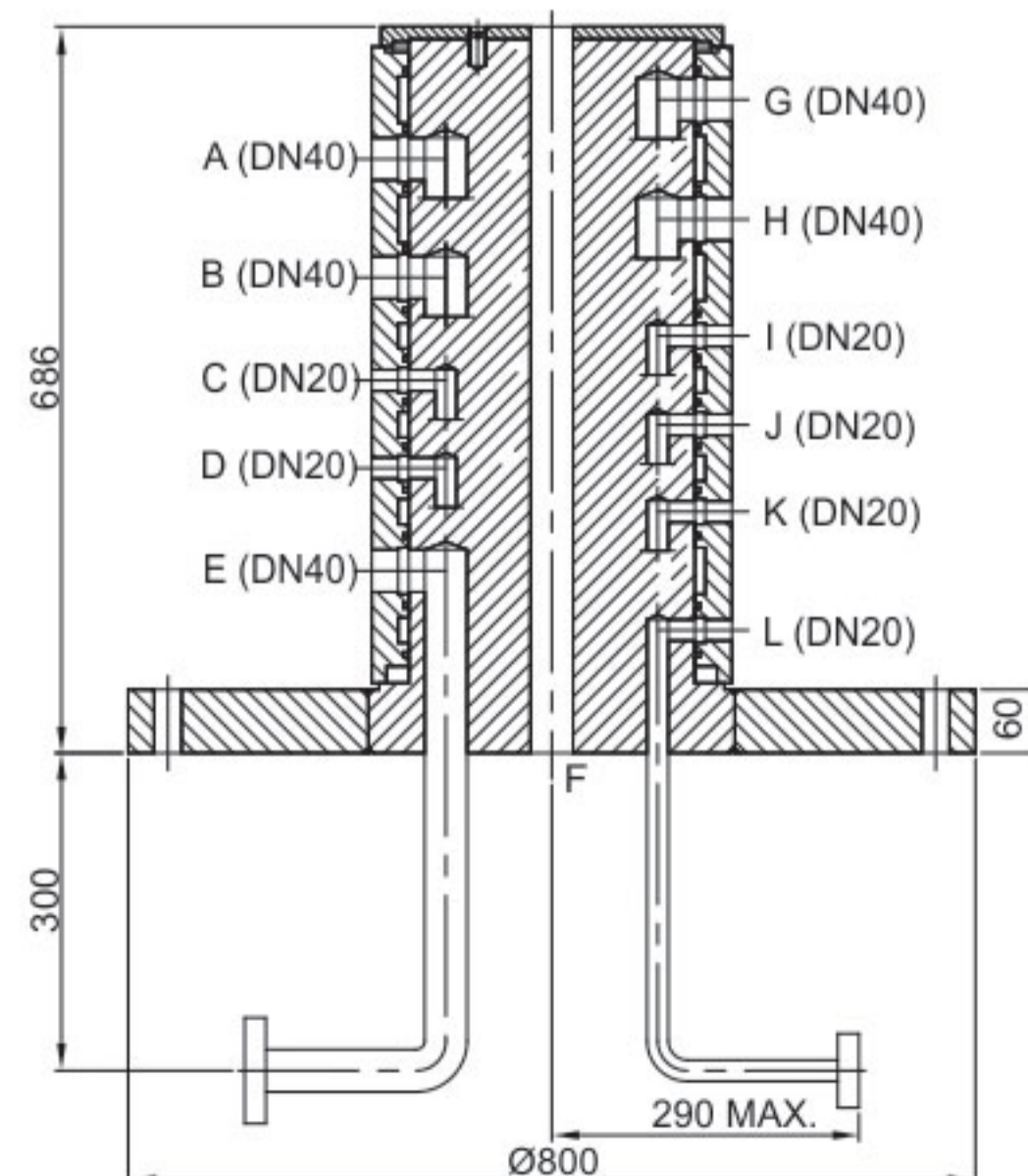
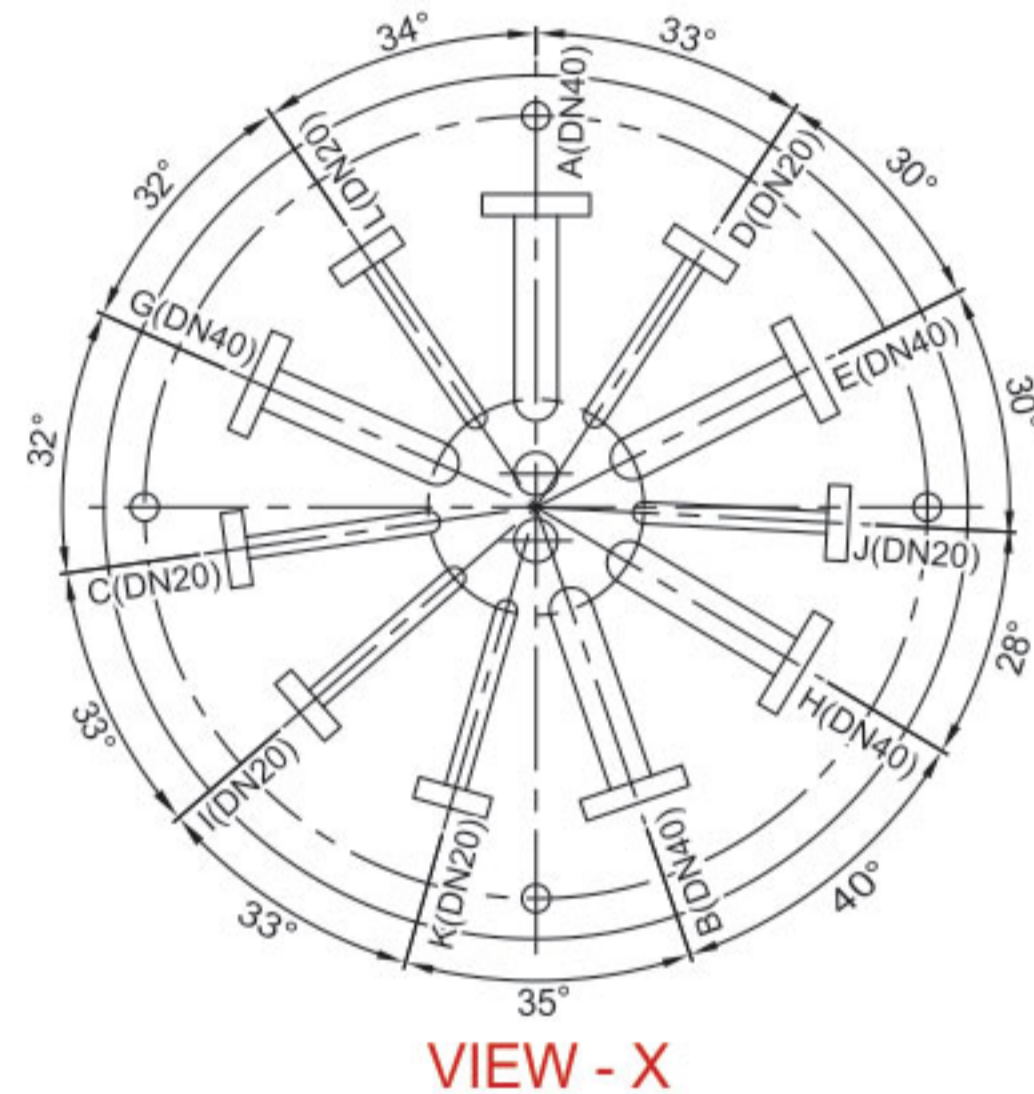


**11 PASSAGE HYDRAULIC ROTARY UNIONS**



**DESIGN FEATURES**

- CENTRAL BORE FOR FURTHER CONNECTIONS
- FLANGE VERSION
- RADIAL HOUSING PORTS : DN 20 X DN 40



Subject to technical change without notice.

**OPERATING DATA**

OPERATING PRESSURE	4570 PSI / 315 BAR
TESTING PRESSURE	7000 PSI / 475 BAR
OPERATING SPEED	1 RPM
MAX. TEMPERATURE	176° F
ALL FLANGES S.A.E. TYPE WITH "O" RING & MATING FLANGES.	

REF. NO: 523-C-008



**4 PASSAGE ROTARY UNIONS**

**SPECIFIC**



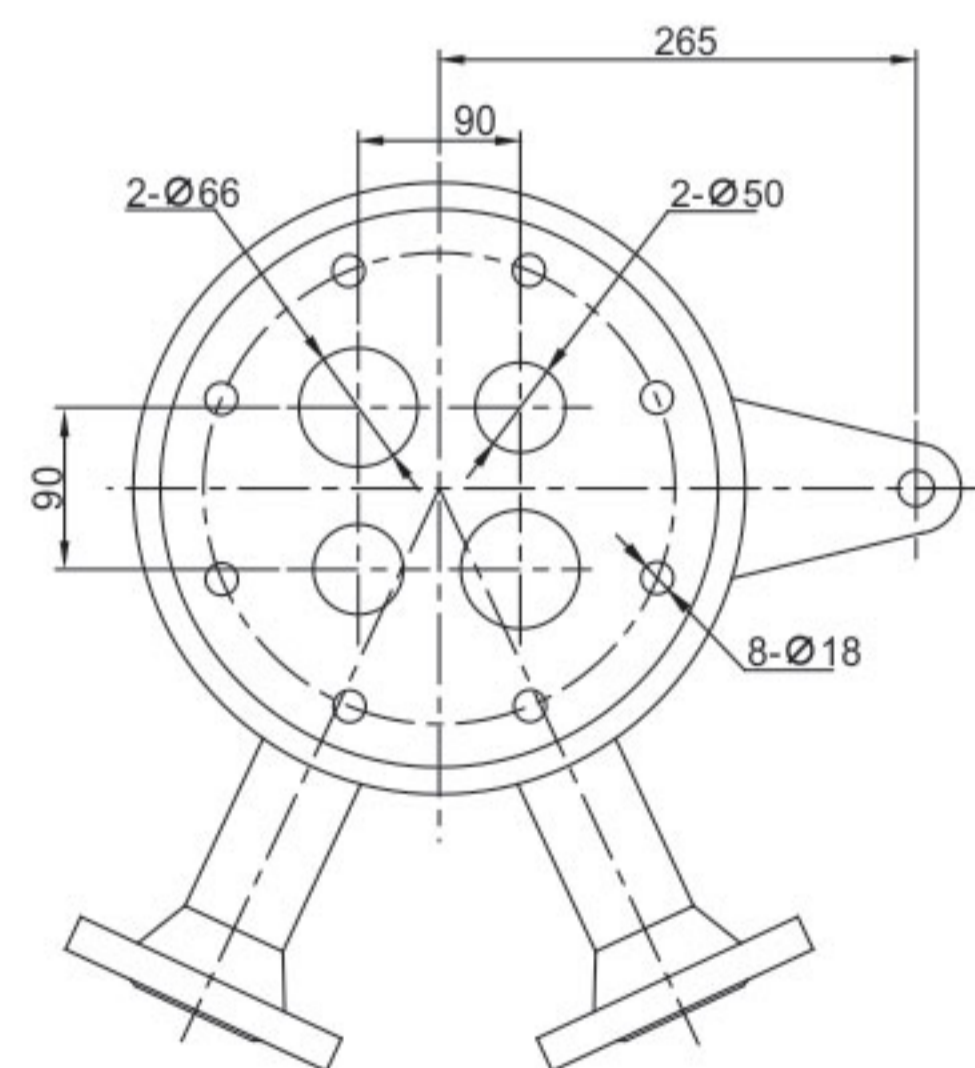
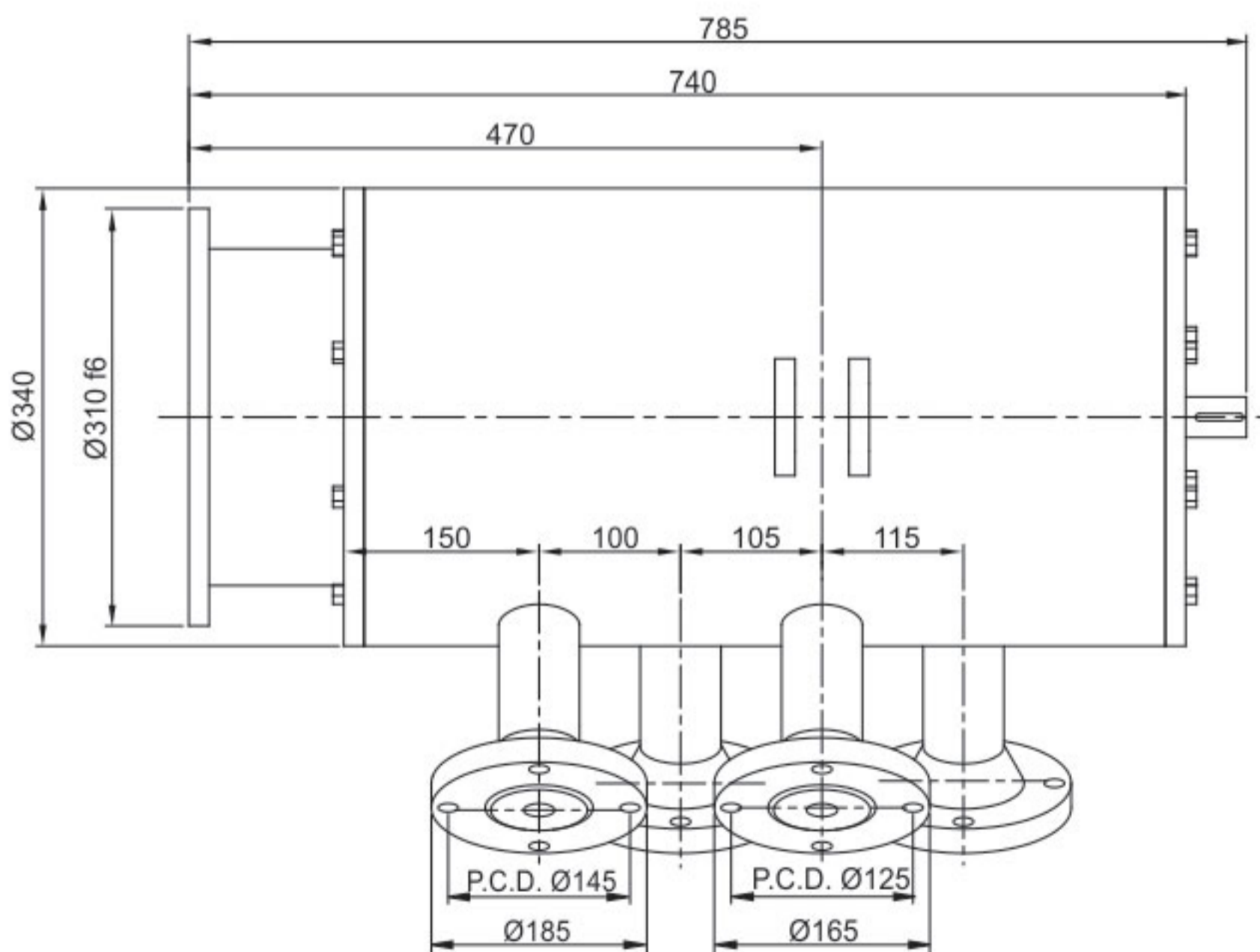
**TYPE : LRJ**  
SIZE: 2" x 2-1/2"

**DESIGN FEATURES**

- HOUSING & ROTOR MADE FROM AISI 321
- SEAL IS MADE FROM CFT / VITON.
- BOTH SIDE BEARING SUPPORTED DESIGN.

**OPERATING DATA**

MAX. PRESSURE	90 PSI / 6 BAR
MAX. TEMPERATURE	175° F
MAX. SPEED	6 RPM



**PART NO: FDFM-02-65F-02-50F**

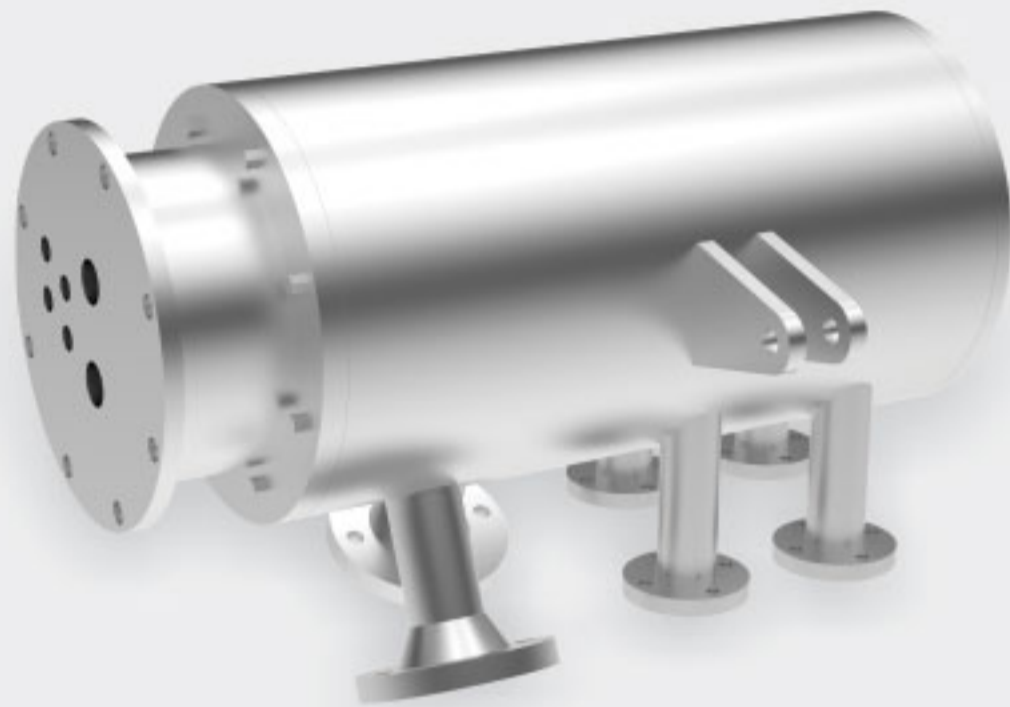
**REF. NO: 365-C-274**

Subject to technical change without notice.



**6 PASSAGE LARGE ROTARY UNIONS**

**SPECIFIC**



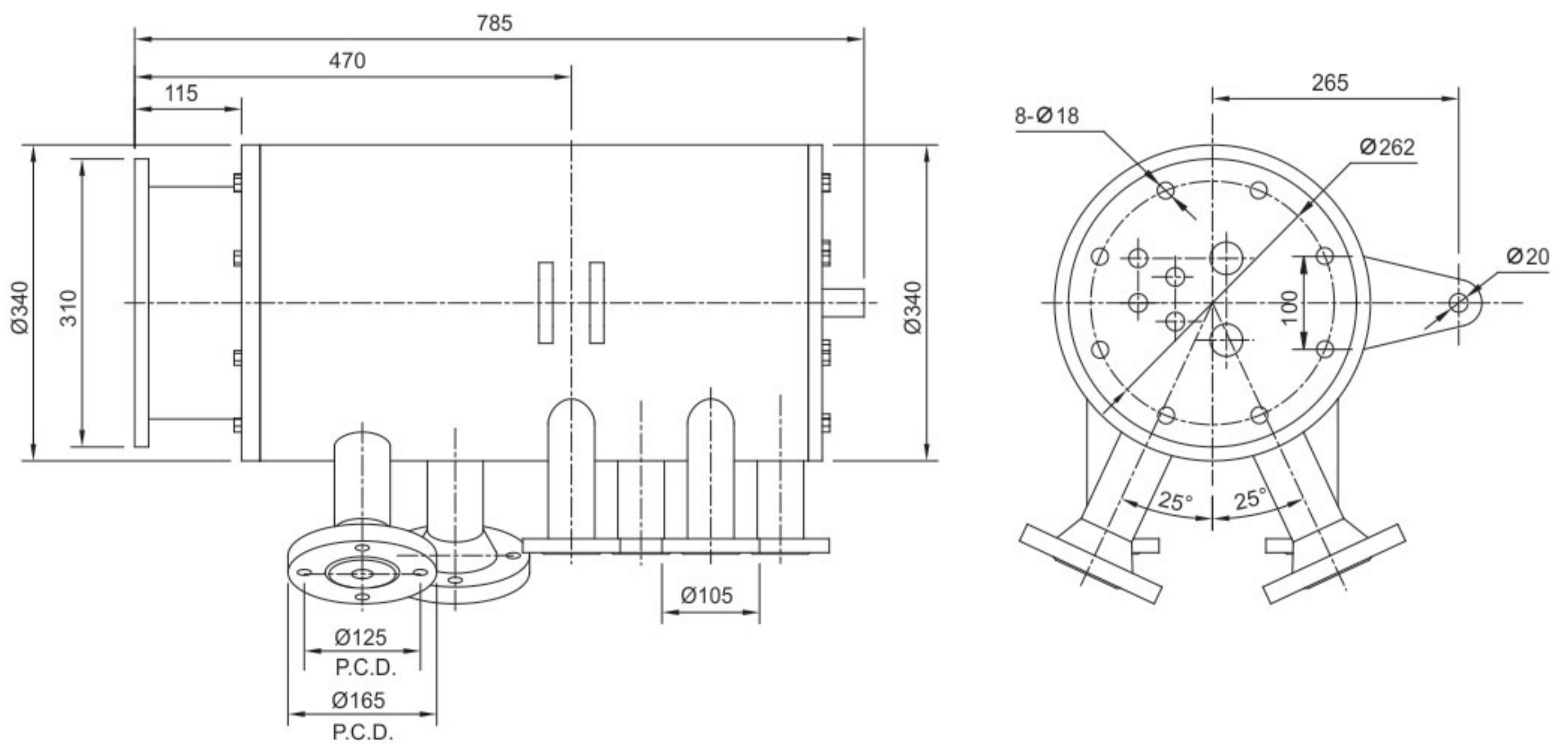
**TYPE : LRJ**  
SIZE: 3/4" x 2"

**DESIGN FEATURES**

- HOUSING & ROTOR MADE FROM AISI 321
- SEAL IS MADE FROM CFT / VITON.
- BOTH SIDE BEARING SUPPORTED DESIGN.

**OPERATING DATA**

MAX. PRESSURE	90 PSI / 6 BAR
MAX. TEMPERATURE	175° F
MAX. SPEED	6 RPM



PART NO: FDFM-02-50F-04-20F  
REF. NO.: 365-C-275

Subject to technical change without notice.



**2 PASSAGE ROTARY UNIONS / ROTO UNITS / ROTO PACKS**

**SPECIFIC**



**TYPE : FGR**

- FOR CLAMPING - UNCLAMPING APPLICATIONS AT STEEL STRIP WINDERS.
- DESIGNED TO SUPPLY GREASE TO A HOT ROLLING COILER MANDREL APPLICATION.

**DESIGN FEATURES**

- SPECIALLY DESIGNED TO SUPPLY GREASE TO A HOT ROLLING COILER MANDREL APPLICATION.
- 'FOURWENTS' FLUID ROTARY UNION DESIGNS TO UTILIZE THE LATEST IN HIGH PERFORMANCE SEAL MATERIAL TO IMPROVE EFFICIENCY AND DURABILITY UNDER THE TOUGHEST OPERATING CONDITIONS.

**OPERATING DATA**

MAX. PRESSURE	5,075 PSI / 350 BAR
MAX. TEMPERATURE	205° F / 95° C
MAX. SPEED	100 RPM

**3 PASSAGE ROTARY UNIONS / ROTO UNITS / ROTO PACKS  
FOR HYDRAULIC / GREASE APPLICATIONS**

**SPECIFIC**



**TYPE : FGR**

- FOR SPRAYING - CLAMPING - UNCLAMPING APPLICATIONS AT STEEL STRIP WINDER OF STEEL PLANTS.
- GREASE IS SUPPLIED TO THE WINDING MANDREL TO LUBRICATE THE ROTARY ELEMENTS OF THE WINDER.

**OPERATING DATA**

HYDRAULIC	MAX. PRESSURE	1,450 PSI / 100 BAR
	MAX. TEMPERATURE	160° F / 70° C
	MAX. SPEED	450 RPM

**OPERATING DATA**

GREASE	MAX. PRESSURE	5,800 PSI / 400 BAR
	MAX. TEMPERATURE	160° F / 70° C
	MAX. SPEED	600 RPM

Subject to technical change without notice.

**SPECIFIC - FGR**



**2 PASSAGE ROTARY UNIONS / ROTO UNITS / ROTO PACKS**

**SPECIFIC**



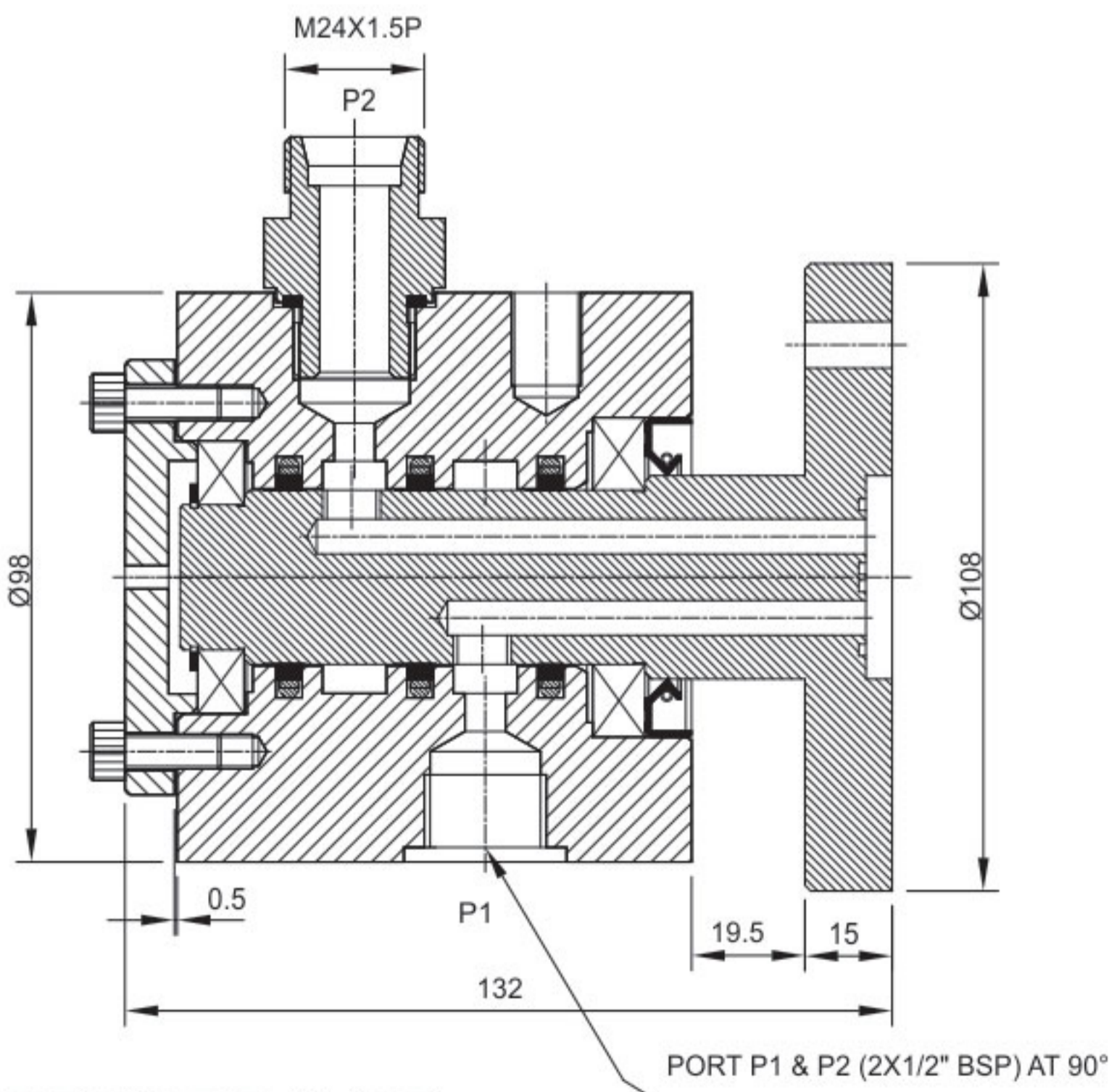
**TYPE : FGR**  
SIZES: 1/2"

**DESIGN FEATURES**

- DUAL PASSAGE ROTO PACK DESIGN FOR TRANSFERRING GREASE.
- A FLANGE MOUNTED SINGLE PIECE HARDENED STEEL ROTOR.
- MAIN BODY / HOUSING MADE OUT FROM ALUMINIUM ALLOY.
- SPECIAL POLYMER SEALING AND OIL SEAL DESIGN FOR LEAKAGE FREE SERVICE.
- IN BUILT DOUBLE BALL BEARING DESIGN FOR LONG TROUBLE FREE SERVICE.
- **DIRECTLY INTERCHANGEABLE WITH ANY OEM SELF SUPPORTED ROTARY UNION.**

**OPERATING DATA**

MEDIA	GREASE
MAX. PRESSURE	5800 PSI / 400 BAR
MAX. TEMPERATURE	175° F / 80° C
MAX. SPEED	200 RPM



**PART NO: FGR- 02-15 B**



Subject to technical change without notice.





**6 PASSAGE AIR HYDRAULIC ROTARY UNIONS**



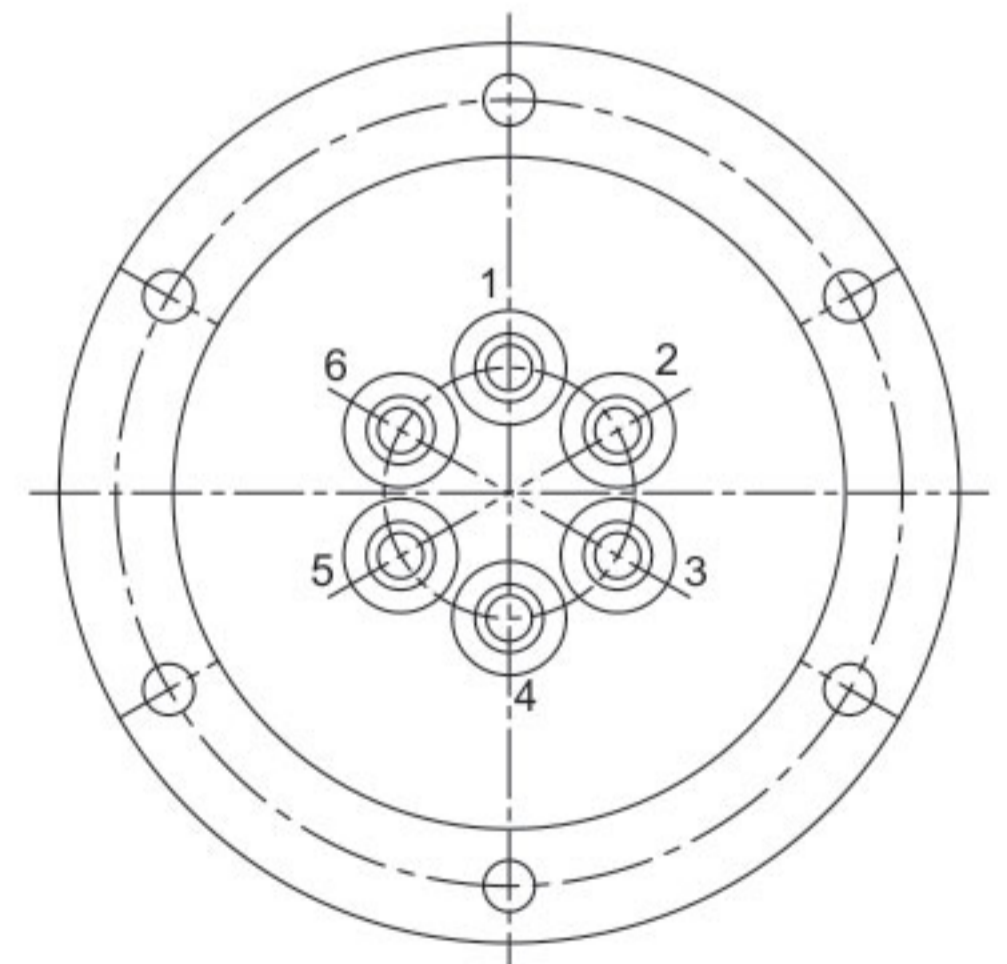
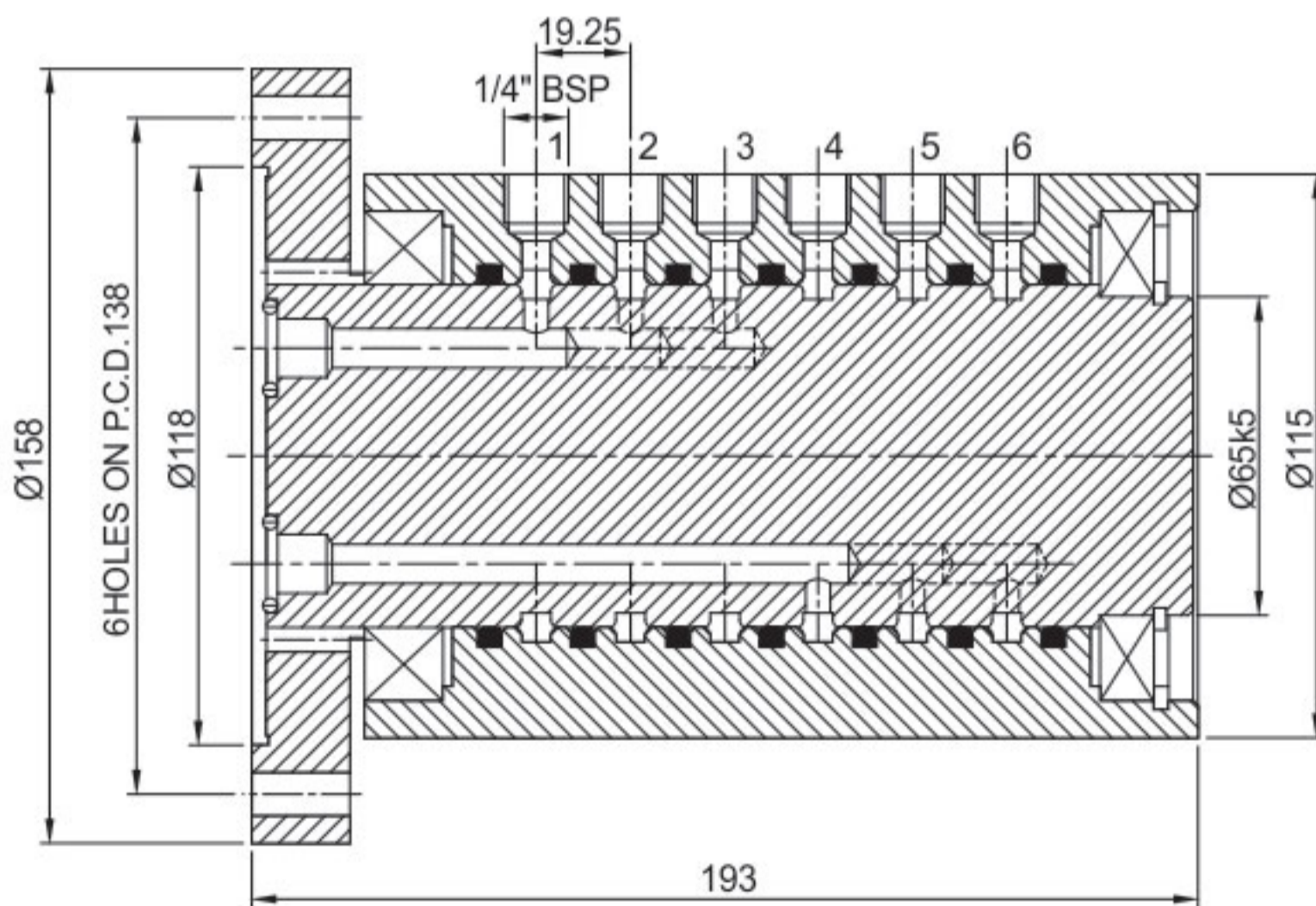
**DESIGN FEATURES**

- 6 PASSAGE DESIGN.
- SELF SUPPORTED ROTATING UNION.
- FLANGED MOUNTING DESIGN MAIN ROTOR.
- ALUMINUM HOUSING / BODY.
- CARBON FILLED TEFLON SEAL.
- STAINLESS STEEL MAIN ROTOR WITH ELECTRO LESS PLATING.
- INBUILT DOUBLE BEARING DESIGN FOR LONG TROUBLE FREE SERVICE.
- **DIRECTLY INTERCHANGEABLE WITH ANY OEM SELF SUPPORTED ROTARY UNION.**

**OPERATING DATA**

MAX. AIR PRESSURE	150 PSI
MAX. HYDRAULIC PRESSURE	6000 PSI
MAX. TEMPERATURE	175° F
MAX. SPEED	10 TO 250 RPM

**SPECIFIC**



**MODEL: FD 6000-06BSP**  
**REF. NO.: 542-C-002**

Subject to technical change without notice.



**2 PASSAGE AIR HYDRAULIC ROTARY UNIONS**



**TYPE : SPECIFIC**

SIZE: (1)x1-1/16" , (1)x1-5/16"

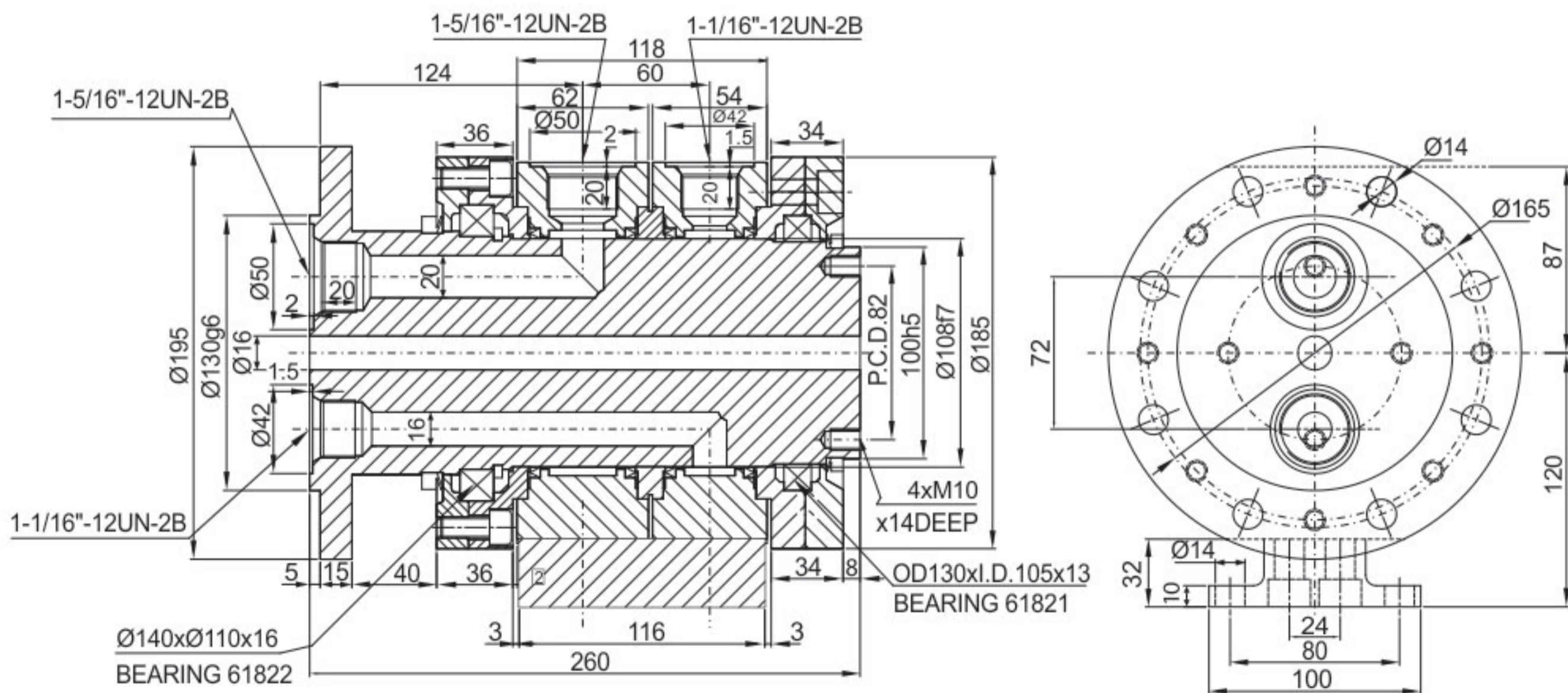
**DESIGN FEATURES**

- 2 PASSAGE DESIGN.
- FOOT MOUNTED ROTATING UNION.
- SECONDARY SEALING SYSTEM.
- CARBON FILLED TEFLON SEALING.
- SPLIT DESIGN.
- 42 CrMo4 HOUSING / BODY.
- 42 CrMo4 MAIN ROTOR WITH ELECTRO LESS PLATING.
- INBUILT DOUBLE BEARING DESIGN FOR LONG TROUBLE FREE SERVICE.
- **DIRECTLY INTERCHANGEABLE WITH ANY OEM SELF SUPPORTED ROTARY UNION.**

**OPERATING DATA**

MAX. AIR PRESSURE	150 PSI / 10 BAR
MIN. TEMPERATURE	175° F
MAX. SPEED	10 TO 250 RPM

**SPECIFIC**



**REF. NO.: 675-C-001**

Subject to technical change without notice.



**HYDRAULIC ROTARY UNIONS  
( 5 PASSAGE / PORT WITH LARGE CENTER HOLE )**



**DESIGN FEATURES**

- AVAILABLE UP TO 2 TO 20 PASSAGES.

OPERATING DATA	
MAX. PRESSURE	150 PSI / 10 BAR
MAX. TEMPERATURE	175° F / 80° C
MAX. SPEED	250 RPM



Subject to technical change without notice.

**SPECIFIC**



**TRIPLE PASSAGE AIR ROTARY UNION  
SUITABLE FOR SHAPER MACHINE IN TYRE INDUSTRIES**

**SPECIFIC**



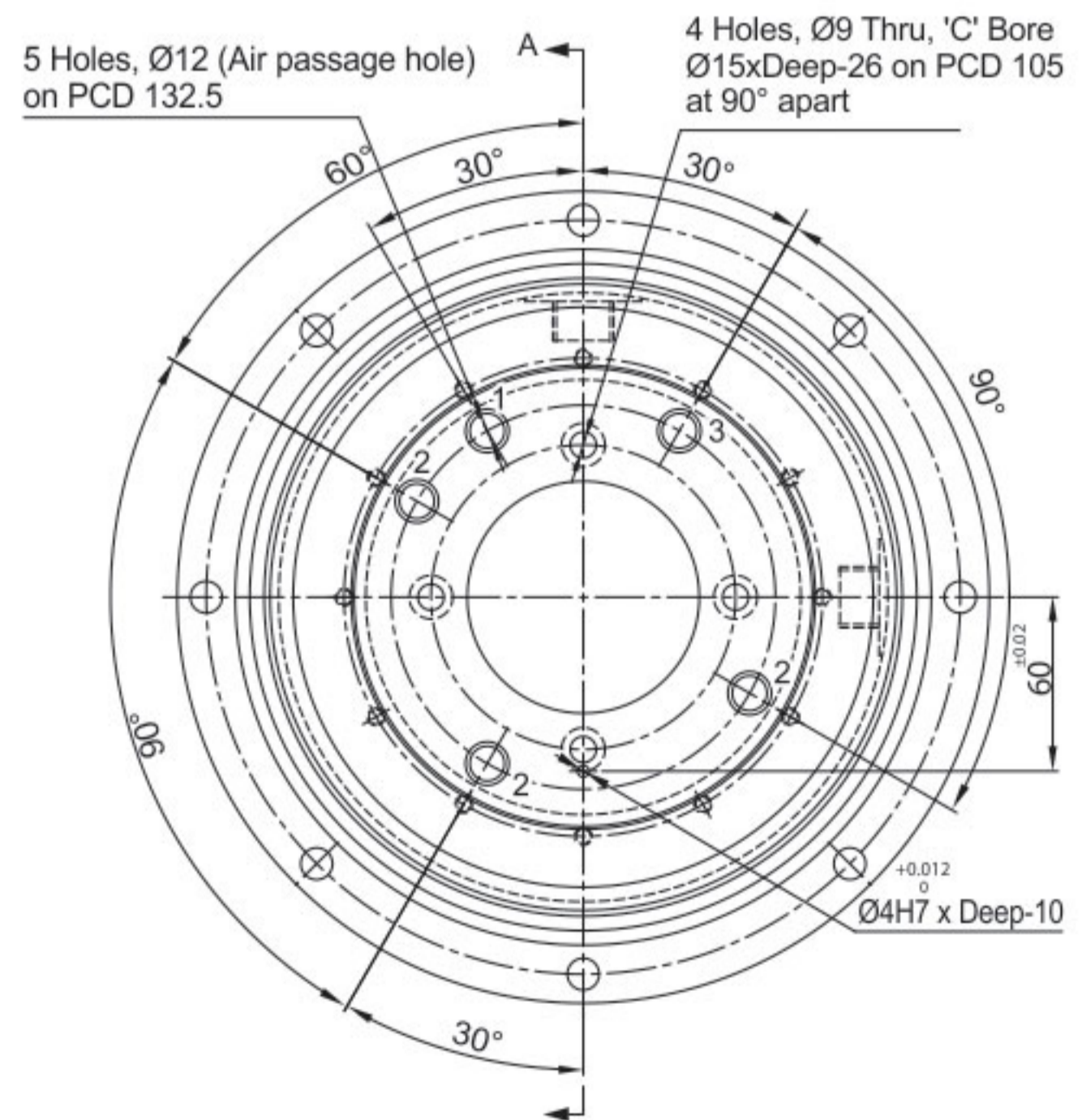
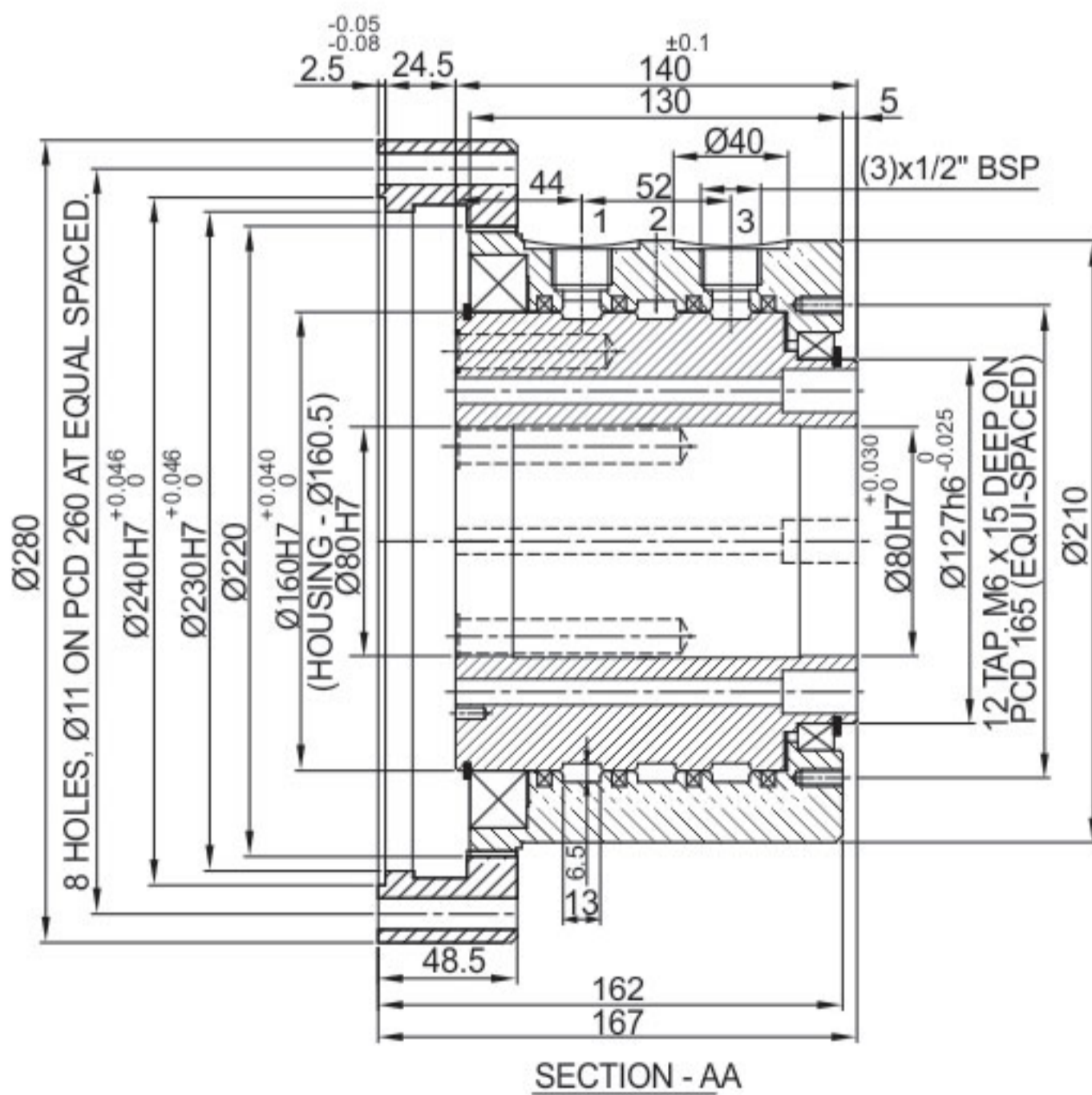
**TYPE : FDC**  
SIZES : (3) x 1/2"

**DESIGN FEATURES**

- TRIPLE PASSAGE AIR ROTARY UNION FOR TYRE INDUSTRY IN PCR PROJECT.
- A GEAR TYPE DRIVE PLATE MOUNTING DESIGN.
- MAIN HARDENED / TREATED ROTOR MADE OUT FROM CARPENTER STEEL.
- MAIN BODY / HOUSING MADE OUT FROM CARPENTER STEEL.
- SPECIAL POLYMER SEALING DESIGN FOR LEAKAGE FREE SERVICE.
- INBUILT DOUBLE BEARING DESIGN FOR LONG TROUBLE FREE SERVICE.
- **DIRECTLY INTERCHANGEABLE WITH ANY OEM SELF SUPPORTED ROTARY UNION.**

**OPERATING DATA**

MAX. AIR PRESSURE	1000 PSI
MIN. TEMPERATURE	121° F
MAX. SPEED	1000 RPM



**MODEL: FDC-312-SPL**  
**REF. NO: 977-C-114**

Subject to technical change without notice.

**SPECIFIC**



**TYPE : FMP FB3-1550**

**DESIGN FEATURES**

- TRIPPLE PASSAGE DESIGN FOR ROTARY **WATER FILLING** APPLICATION.
  - 3 NOS. DIFFERENT SIZE INLET CONNECTIONS ARE PROVIDED.
  - 18 NOS. EQUAL OUTLETS ARE PROVIDED TO FEED THE FILLING STATIONS.
  - DESIGNED WITH SPECIALIZED SEALS.
  - HOUSING AND ROTOR MADE OUT FROM FOOD GRADE STAINLESS STEEL MATERIAL.
  - CIP DESIGN ARE INTEGRATED SLIP RING FOR DATA TRANSFER.
  - USE FOR DISTRIBUTION OF WATER.
- **DIRECTLY INTERCHANGEABLE WITH ANY OEM SELF SUPPORTED ROTARY UNION.**

**EXACT SPECIFICATIONS**

NO. OF PASSAGE	3
PASSAGE SIZE	73mm
	47.5mm
	12.7mm
ROTATION SPEED	20 RPM
TEST PRESSURE	100 PSI
THRU BORE SIZE	12.7mm
DIAMETER	227mm
LENGTH	406mm

**TECHNICAL DATA**

NO. OF PASSAGE	3
PASSAGE SIZE	12.7mm TO 19mm
	25mm TO 51mm
	51mm AND ABOVE
ROTATION SPEED	MAX. 24 RPM
TEST PRESSURE	MAX. 200 PSI
THRU BORE SIZE	LESS THEN 25mm

**VARIOUS STAINLESS STEEL ROTATING UNIONS FOR THE FOOD PROCESSING INDUSTRY. CUSTOM BUILT ROTATING UNIONS**



**TYPE : FMP FB-TM1**

**SINGLE PASSAGE DESIGN**  
FOOD PROCESSING SECTOR



**TYPE : FMP FB-TM2**

**DUAL PASSAGE DESIGN**  
MULTIPLE OUTFLOWS  
FOOD PROCESSING SECTOR



**TYPE : FMP FB-TM3**

**DOUBLE PASSAGE DESIGN**  
MULTIPLE OUTFLOW  
HYDRAULICS SECTOR

Subject to technical change without notice.



**TYPE : FMP FB3-2550**

**EXACT SPECIFICATIONS**

NO. OF PASSAGE	3
PASSAGE SIZE	27mm
	66mm
	10 RPM
TEST PRESSURE	80 PSI
ROTATION SPEED	10 RPM
THRU BORE SIZE	100mm
DIAMETER	260mm
LENGTH	470mm

**DESIGN FEATURES**

- TRIPPLE PASSAGE DESIGN FOR ROTARY **GAS FILLING** APPLICATIONS.
- 3 NOS. DIFFERENT SIZE INLET CONNECTIONS ARE PROVIDED.
- 'N' NOS. OF OUTLETS ARE PROVIDED TO FEED THE FILLING STATION.
- DESIGNED WITH SPECIALIZED SEALS.
- HOUSING AND ROTOR MADE OUT FROM FOOD GRADE STAINLESS STEEL MATERIAL.
- CIP DESIGN ARE INTEGRATED SLIP RING FOR DATA TRANSFER.
- USE FOR DISTRIBUTION OF GAS AND OTHER MEDIA.
- **DIRECTLY INTERCHANGEABLE WITH ANY OEM SELF-SUPPORTED ROTARY UNION.**

**TECHNICAL DATA**

NO. OF PASSAGE	3
PASSAGE SIZE	25 - 51mm
	51mm & ABOVE
ROTATION SPEED	MAX. 24 RPM
TEST PRESSURE	MAX. 200 PSI
THRU BORE SIZE	76mm - 150mm



**TYPE : FMP - FB6 - 0610**

**EXACT SPECIFICATIONS**

NO. OF PASSAGE	6
PASSAGE SIZE	6.25mm
ROTATION SPEED	10 RPM
TEST PRESSURE	100 PSI
THRU BORE SIZE	15mm
DIAMETER	94mm
LENGTH	220mm

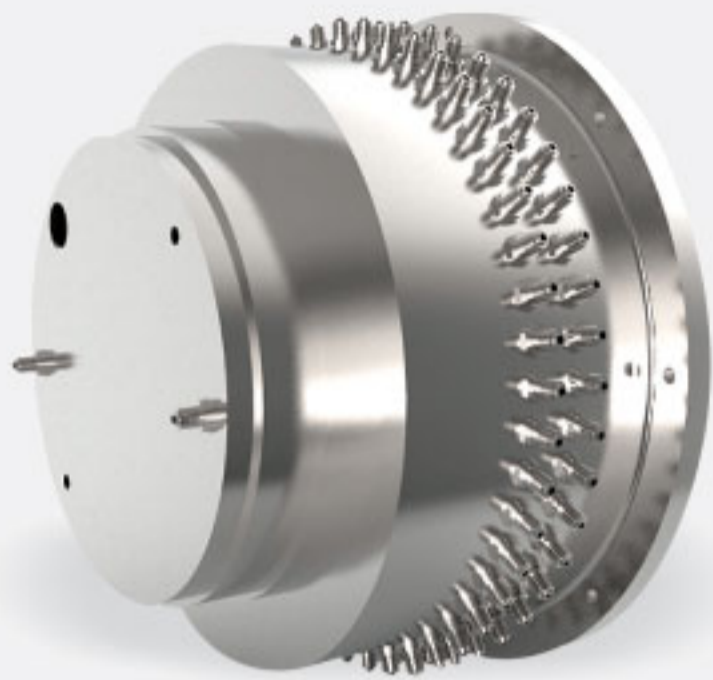
**DESIGN FEATURES**

- SIX PASSAGE DESIGN FOR **GAS TRANSFER** APPLICATIONS.
- FLANGE MOUNTED ROTOR WITH 6 NOS INLETS.
- DESIGNED WITH SPECIALIZED SEALS.
- HOUSING AND ROTOR MADE OUT FROM IMPORTED FOOD GRADE STAINLESS STEEL MATERIAL.
- SPECIALIZED ELECTRICAL SLIP RING PROTECTED WITH A SS CAP.
- USE FOR BOTTLE PACKAGING.
- **DIRECTLY INTERCHANGEABLE WITH ANY OEM SELF-SUPPORTED ROTARY UNION.**

**TECHNICAL DATA**

NO. OF PASSAGE	6 TO 7
PASSAGE SIZE	6.35 - 9.5mm
ROTATION SPEED	MAX. 24 RPM
TEST PRESSURE	MAX. 200 PSI
THRU BORE SIZE	LESS THEN 250MM
OPTIONS	SLIP RING

Subject to technical change without notice.



**TYPE : FMP FB3/48-1503**

**DESIGN FEATURES**

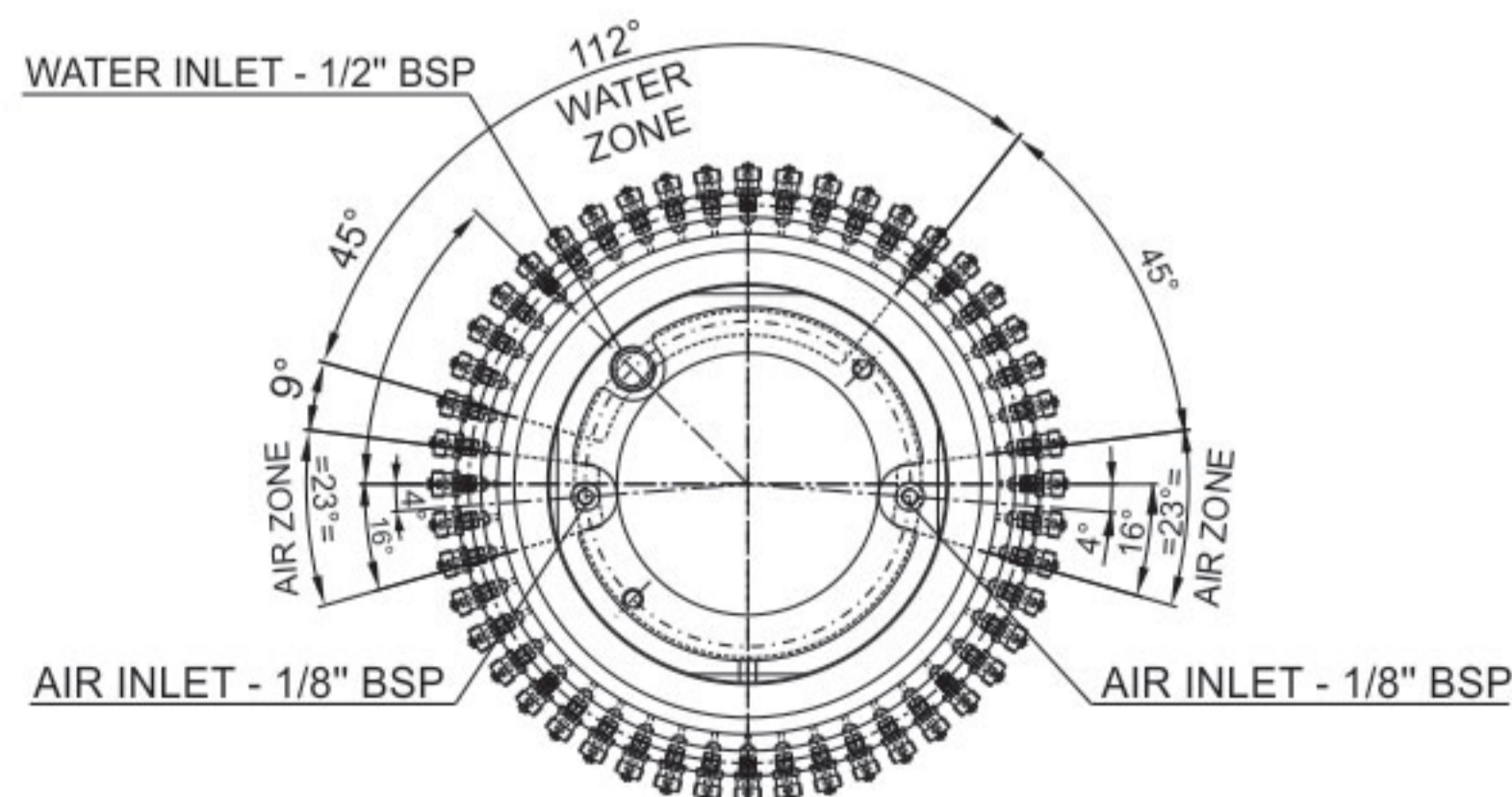
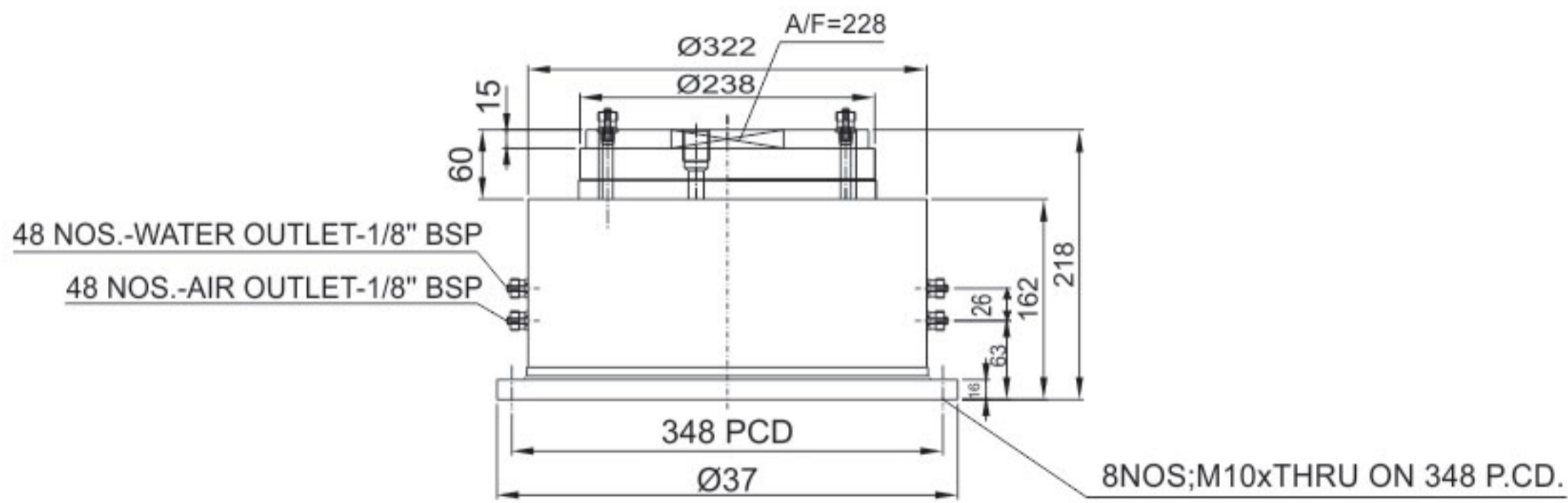
- 1+2 PASSAGE INLET AND 96 ( 48 + 48 ) PASSAGE OUTLETS.
- ROTARY UNION DESIGNED FOR A BOTTLE WASHING MACHINE APPLICATION.
- SPECIALLY DESIGNED FOR WATER AND AIR DISTRIBUTION.
- MADE OUT FROM HIGH QUALITY STAINLESS STEEL MATERIAL.
- **DIRECTLY INTERCHANGEABLE WITH ANY OEM SELF SUPPORTED ROTARY UNION.**

**EXACT SPECIFICATIONS**

MEDIA	WATER
FLOW	2 CU. MTR. /HR
PRESSURE	47.5MM
TEMPRATURE	12.7MM
MEDIA	AIR
PRESSURE	45° C
MAT	S.S. 304 COMPLETE

**TECHNICAL DATA**

WATER INLET	(1) x 1/2" BSP
AIR INLET	(2) x 1/8" BSP
WATER OUTLET	(48) x 48" BSP
AIR OUTLET	(48) x 48" BSP



**Rotary union for  
Bottle Washing Machine**

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**THE WHOLE WORLD OF 'FOURWENTS'  
ROTARY JOINTS / UNIONS / ROTOR SEALS...**

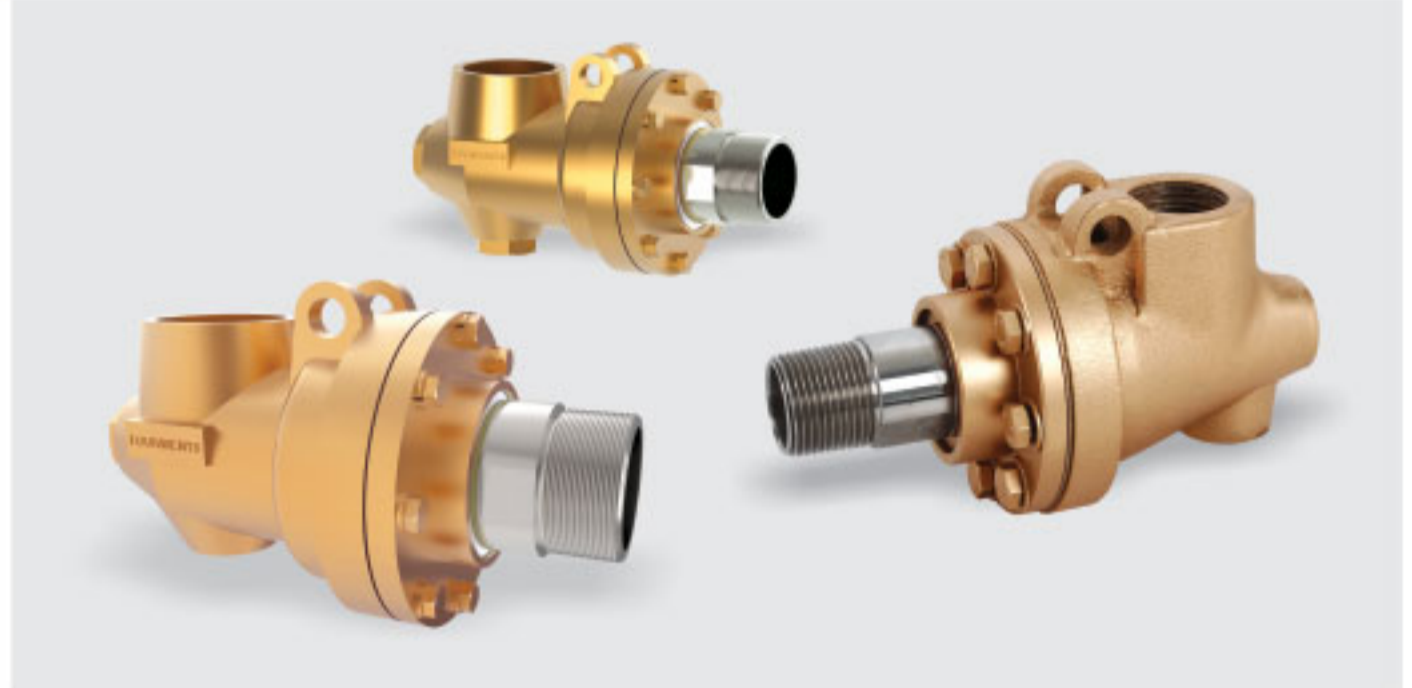
**FDU - AHS  
SERIES**

ROTARY UNIONS FOR AIR HYDRAULICS SERVICES SINGLE, DUAL & MULTI PASSAGE HIGH PRESSURE UNIONS



**FBU  
SERIES**

ROTARY UNIONS FOR TRANSMISSION OF WATER, HOT WATER, STEAM & HOT OIL APPLICATIONS



**FMU-9400  
SERIES**

ROTARY UNIONS FOR THERMAL / HOT OIL SERVICE. HEAVY DUTY DESIGN FOR HIGHER LOADS, TEMPERATURES & SPEED.



**FMU  
SERIES**

ROTARY UNIONS FOR TRANSMISSION OF WATER, HOT WATER, STEAM, THERMAL / HOT OIL APPLICATIONS.



**WMP - WT  
SERIES**

ROTARY UNIONS SUITABLE FOR WIND MILL / WIND TURBINE APPLICATIONS.



**FJU  
SERIES**

ROTARY JOINTS FOR TRANSMISSION OF WATER, HOT WATER, STEAM & HOT OIL APPLICATIONS.



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■ [www.fourwents.com](http://www.fourwents.com) ■ [www.rotaryjointworld.com](http://www.rotaryjointworld.com) ■ [www.fourpackaging.com](http://www.fourpackaging.com)

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**FDU SERIES** FOR TRANSMISSION OF WATER, HOT WATER AND GENERAL PURPOSE APPLICATIONS

**FDU-SPECIFIC SERIES** ROTARY UNIONS FOR SPECIAL APPLICATIONS

**FDU, CS, AHS & FB SERIES** ROTARY UNIONS FOR COOLANT, AIR HYDRAULIC AND MULTI PORT APPLICATIONS

**FDU- AHS SERIES SPECIFIC** SPECIFIC ROTARY JOINTS OF FLANGE MOUNTED DUAL, TRIPLE, MULTI PORTS & HIGH PRESSURE APPLICATIONS.

**FDU - FB SERIES** ROTARY UNIONS FOR APPLICATIONS IN FOOD, BEVERAGES & BREWERIES INDUSTRIES...

**FDU- CS SERIES** ROTARY JOINTS FOR HIGH SPEED MACHINE TOOLS COOLANT APPLICATIONS.

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**THE WHOLE WORLD OF 'FOURWENTS'  
ROTARY JOINTS / UNIONS / ROTOR SEALS...**

**FJU, FBU, FMU & FDU SERIES**      **ROTARY JOINTS SUITABLE FOR TEXTILE APPLICATIONS**

**FD & FDU SERIES**      **ROTARY JOINTS SUITABLE FOR STEEL INDUSTRIES**

**FD & FDU SERIES**      **ROTARY JOINTS SUITABLE FOR STEEL & IRON WORKS INCLUDING CONTINUOUS CASTING MACHINES ( CCM )**

**ROTARY UNIONS / ROTARY JOINTS**      **SUITABLE FOR MAN MADE FIBER INDUSTRIES FOR POLYESTER STAPLE FIBER LINES, PSF & PTA DRYERS & CRIMPER...**

SUITABLE FOR TYPES: ■ DUPONT ■ NEUMAG ■ ZIMEER ■ TOYOBO ■ ZHENGOU ■ FLEISSNER

**ROTARY UNIONS / ROTARY JOINTS**      **SUITABLE FOR FURNACE, AUTOMOTIVE AND MACHINE TOOLS COOLANT & AIR HYDRAULIC APPLICATIONS**

**FLEXIBLE HOSES & ACCESSORIES**      **STAINLESS STEEL & TEFLON (PTFE) BRAIDED FLEXIBLE HOSE ASSEMBLIES FOR ROTARY JOINTS**

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## FOURWENTS ENGINEERING COMPANY

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