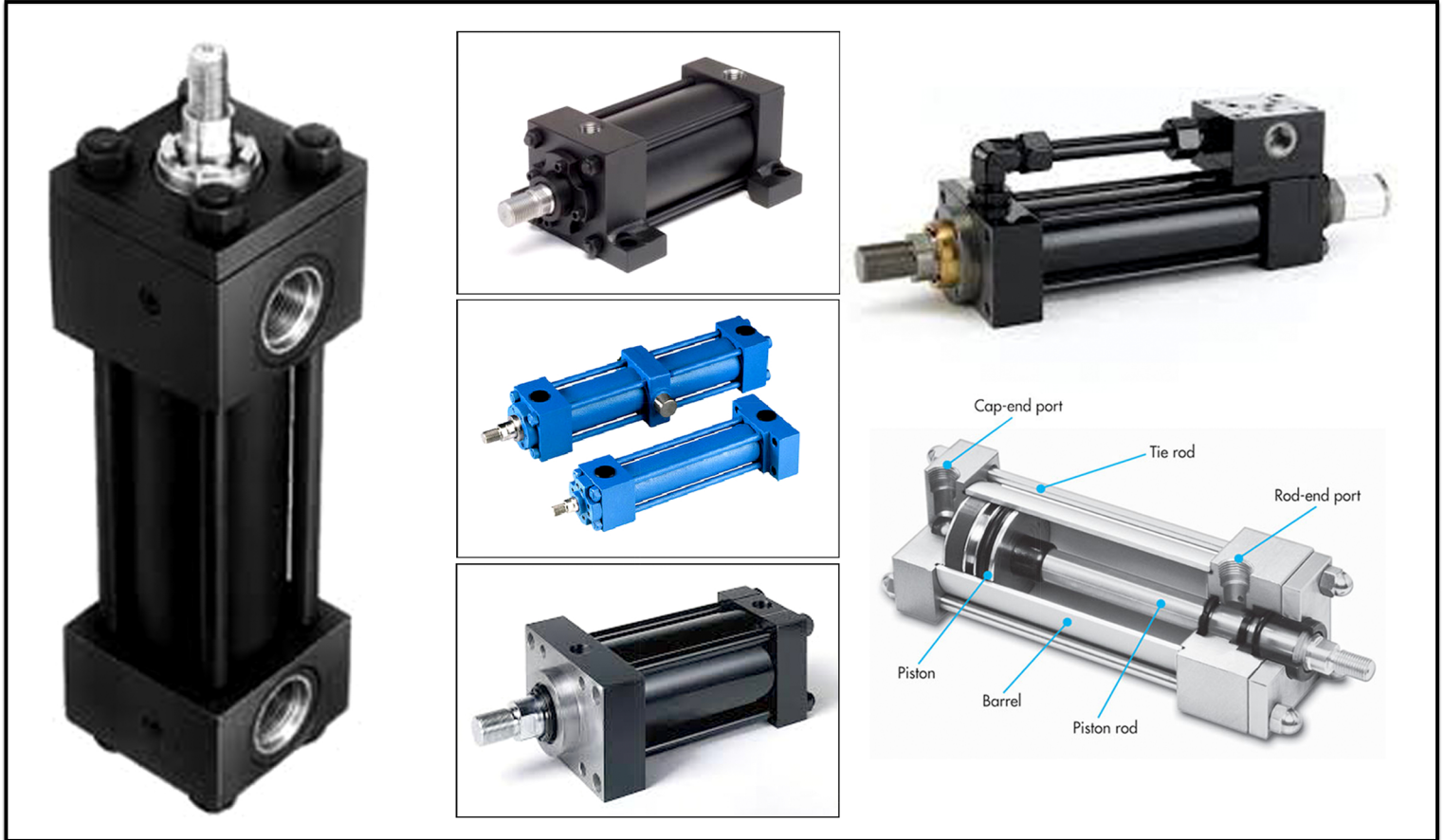


Sarangamath Hydraulics Pvt Ltd.

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Series - TR160



HYDRAULIC CYLINDER - PRESSURE 160 BAR

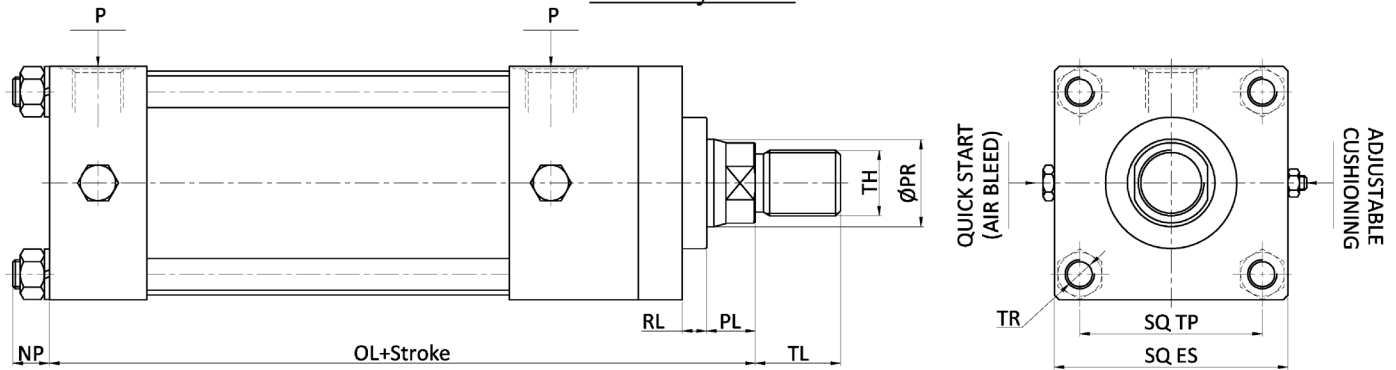
- * Cylinder Bore Dia.25 to 250 mm.
- * Rated Pressure 160 Kg/Cm²
- * Standard construction, square head, tie rod design
- * Tie-rod type, Medium Pressure hydraulic cylinders, available with a wide range of mounting arrangements.
- * Strokes available in any practical stroke length
- * With/ Without Cushioning.
- * Temperature range: -20°C to 100°C.
(Optional sealing systems for temperatures up to 180°C)
- * We offer a wide range of custom built Tie-Rod Hydraulic Cylinders

Hydraulic Cylinders - TR160 Series

- * Rated Pressure 160 kg/Cm²
- * Test Pressure 240 kg/Cm²



Basic Cylinder



BORE DIA	PR DIA	ES (SQ)	TH	P (BSP)	OL	RL	PL	TL	TR	NP	TP	CUSHIONING LENGTH
25	16	46	M12x1.25	1/4"BSP	146	4	10	16	M8x1.25	12	32	12
32	18	56	M14x1.5	3/8"BSP	156	6	10	18	M8x1.25	12	38	15
40	18/22	66	M14x1.5/M16x1.5	3/8"BSP	175	8	12	18/22	M10x1.5	14	46	20
50	22/28	76	M16x1.5/M20x1.5	1/2"BSP	194	8	12	22/28	M12x1.75	16	54	20
63	28/36	85	M20x1.5/M27x2	1/2"BSP	212	10	16	28/36	M12x1.75	16	60	20
80	36/45	110	M27x2/M33x2	3/4"BSP	240	12	20	36/45	M16x2	20	75	25
100	45/56	130	M33x2/M42x2	3/4"BSP	261	15	20	45/56	M16x2	20	96	25
125	56/70	170	M42x2/M48x2	3/4"BSP	287	20	22	56/63	M24x2	30	124	30
160	70/90	220	M48x2/M64x3	1"BSP	312	24	25	63/85	M30x2	38	156	30
200	90/110	254	M64x3/M80x3	1"BSP	352	28	30	85/95	M30x2	38	192	35
250	110/140	310	M80x3/M100x3	1"BSP	395	32	40	95/112	M30x2	38	240	35

Material Specification

- * **BARREL:** Made from cold drawn seamless tubes and honed to a surface finish of 0.4 micron and higher.
- * **PISTON ROD:** Made from medium carbon steel, accurately ground, hard chrome plated super finished.
- * **COVER PLATES:** Fine machined from steel, and constructed with a sturdy design to withstand high pressure loads.
- * **GLAND:** Phosphor bronze /Cast Iron bush inserted for smooth operation of the piston rod and for provided suitable guiding action.
- * **TIE RODS:** Made from high tensile steel rod tightened with hexagonal nut for easy maintenance.
- * **MOUNTING:** Various type of mounting are available according to the requirement ensuring complete interchangeability with other ISO standard cylinder.
- * **CUSHIONING:** Self aligning cushioning boss ensures alignment of the rod movement inside the cushioning chamber, providing accurate damping action at end of stroke.
- * **CUSHIONING SCREW:** For fine adjustment of cushioning movement.
- * **AIR BLEED:** Screw provided for releasing the air trapped in the cylinder.

SEALLING ELEMENTS:

- * **PISTON SEAL:** Provided with one turcon Glydring for low friction, Stick / Slip free movement along with two turcite Slydring for conforms to ISO 7245/1.
- * **GLAND SEAL:** Polyurethane RU3 U-Cup seal is used, which has primary and secondary lip for maximum flexibility. Conforms to ISO 5597.
- * **WIPER SEAL:** DA-22 Double Acting Polyurethane scraper is used conforming to ISO 6195 Type C groove dimensions. This wears resistant seal has a scraper lip which scrapes off the dirt completely from the Piston Rod, but leaves a residual oil film which is required for proper lubrication.
- * **STATIC SEALS:** Nitrile Rubber 'O' ring are used for static sealing purposes. They are used for the end seals, piston locking and cushioning seals.



STANDARD MOUNTINGS

FRONT FLANGE (FF)		DIMENSION DETAILS										
	BORE DIA	25	32	40	50	63	80	100	125	160	200	250
	F1	85	96	110	130	147	180	196	250	303	375	470
	F2	66	76	90	105	122	150	164	210	253	315	394
	F3	30	38	42	54	66	84	100	130	156	192	252
	FH	9	9	11	14	14	18	18	22	26	34	40
	MF	10	12	14	16	18	20	22	25	28	30	34
	RL	4	6	8	8	10	12	15	20	24	28	32
	RD	30	32	40	46	56	66	76	90	110	136	166
	PR	14	16	20	20	26	32	35	42	49	58	72
	DR	156	168	189	210	230	260	283	312	340	377	414
	SL	6	6	6	6	6	6	6	6	8	8	8
	CD	16	16	25	32	36	42	50	60	70	80	100
	CT	10	10	14	16	18	22	30	36	40	40	45
	CH	12	12	16	20	20	30	40	50	60	70	90
	CP	22	22	26	32	36	42	58	60	70	86	110
	RC	168	178	201	226	248	282	319	347	382	433	490
	EP	14	15	17	19	21	23	25	27	30	32	35
	FP	20	21	22	25	27	29	32	35	37	40	42
	MA	88	92	102	114	120	136	147	158	168	187	197
	MI	10	12	16	20	26	30	32	36	40	46	56
	MH	9	9	11	14	17	17	22	22	26	34	40
	ML	94	106	122	136	170	190	222	262	316	386	486
	LP	76	88	104	114	140	158	184	224	266	326	410
	MD	26	32	37	42	56	66	76	98	110	140	175
	MB	44	49	56	61	71	81	89	102	114	128	148
	TT	30	30	40	45	45	50	56	56	60	86	106
	TP	20	20	25	32	32	36	40	40	50	75	90
	PD	90	110	120	144	164	190	220	265	306	398	522
	TD	50	60	70	80	100	120	140	185	216	270	342
	TC	TO BE SPECIFIED BY CUSTOMER										



PISTON AREA, ACTION FORCE, VELOCITIES & FLOWS

BORE DIA (MM)	ØPR IN (MM)	PISTON AREA (MM ²)	ROD AREA (MM ²)	ANNULUR AREA (MM ²)	ACTION FORCE AT PRESSURE						PISTON VELOCITY In m/s at FLOW=1ltr/min		REQUISITE FLOW in ltr/min at VELOCITY=0.1m/s	
					70 kg/cm ²		160 kg/cm ²		210 kg/cm ²		Piston	Rod	Piston	Rod
					Force(Piston)	Force(Rod)	Force(Piston)	Force(Rod)	Force(Piston)	Force(Rod)				
25	16	490.94	201.09	289.85	344	203	786	464	1031	609	0.03395	0.05750	2.95	1.74
32	18	804.35	254.50	549.85	563	385	1287	880	1689	1155	0.02072	0.03031	4.83	3.30
40	18	1256.8	254.50	1002.30	880	702	2011	1604	2639	2105	0.01326	0.01663	7.54	6.01
	22		380.18	876.62		1403		1841		0.01901		5.26		
50	25	1963.75	490.94	1472.81	1375	1031	3142	2357	4124	3093	0.00849	0.01132	11.78	8.84
	28		615.83	1347.92		944		2157		2831		0.01236		8.09
63	28	3117.6495	615.83	2501.82	2182	1751	4988	4003	6547	5254	0.00535	0.00666	18.71	15.01
	36		1018.01	2099.64		1470		3359		4409		0.00794		12.60
80	36	5027.2	1018.01	4009.19	3519	2806	8044	6415	10557	8419	0.00332	0.00416	30.16	24.06
	45		1590.64	3436.56		2406		5499		7217		0.00485		20.62
100	45	7855	1590.64	6264.36	5499	4385	12568	10023	16496	13155	0.00212	0.00266	47.13	37.59
	56		2463.33	5391.67		3774		8627		11323		0.00309		32.35
125	56	12273.438	2463.33	9810.11	8591	6867	19638	15696	25774	20601	0.00136	0.00170	73.64	58.86
	70		3848.95	8424.49		5897		13479		17691		0.00198		50.55
160	70	20108.8	3848.95	16259.85	14076	11382	32174	26016	42228	34146	0.00083	0.00103	120.65	97.56
	90		6362.55	13746.25		9622		21994		28867		0.00121		82.48
200	90	31420	6362.55	25057.45	21994	17540	50272	40092	65982	52621	0.00053	0.00067	188.52	150.34
	110		9504.55	21915.45		15341		35065		46022		0.00076		131.49
250	110	49093.75	9504.55	39589.20	34366	27712	78550	63343	103097	83137	0.00034	0.00042	294.56	237.54
	140		15395.80	33697.95		23589		53917		70766		0.00049		202.19

ORDERING CODE

TR160 - 25 / 16 - 100 - 01 - FF - NC - (X)

Series	Bore Size	Piston Rod Size	Stroke	Functions	Mountings	Cushioning	Accessories
Rated Pressure Upto 160 Bar	Ø25-Ø250 mm Standard Sizes	Ø16-Ø140 mm Standard Sizes	To be specified in MM	1.Double Acting 2.Single Acting 3.Double Ended (Rod at Both Ends) 4.Spring Return (Single Acting)	FF - Front Flange RF - Rear Flange RC - Rear Clevis RE - Rear Eye FL - Foot Lug CT - Central Trunnion	NC - Non Cushioned	PRE - Piston Rod End PRB - Piston Rod Bracket Special :- * Read Switch Cylinder * Swing Cylinder

WE ALSO OFFER

- * Design and Reverse Engineering of Hydraulic Cylinder.
- * Capability in Handling Special Electrohydraulic Actuators (With Valves and Electronic Sectors).
- * Also carry out Servicing of Pneumatic and Hydro-Pneumatic cylinders.