

RA Series, Aluminium Cylinders

From left to right: RAC, RACL, RACH, RAR

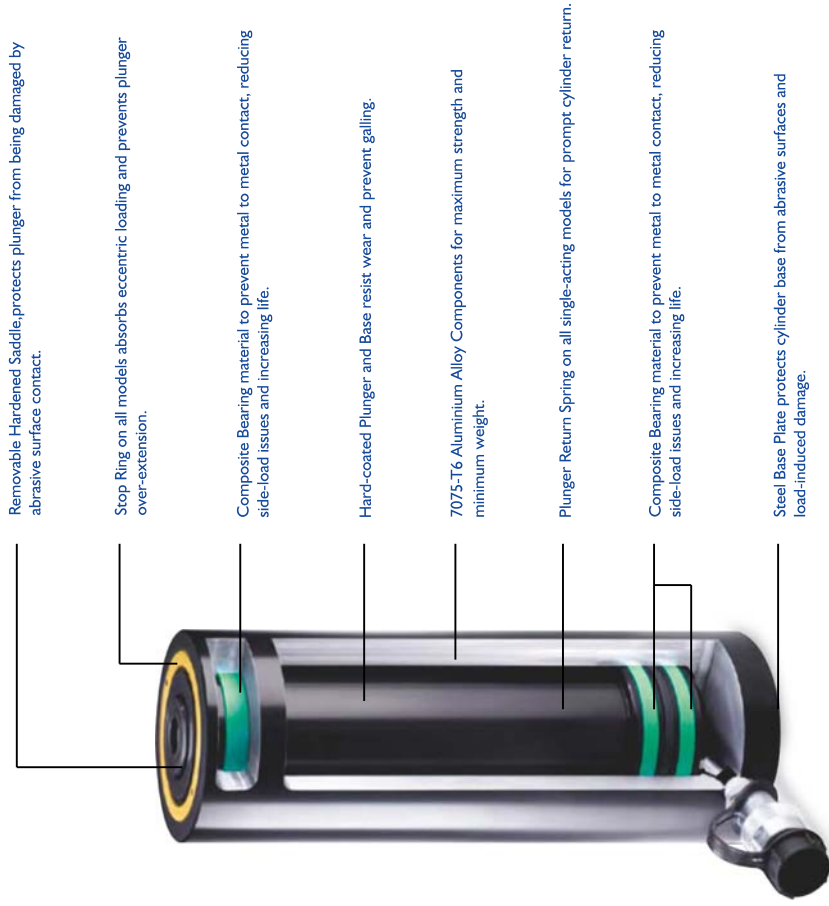


Capacity:	20-150 ton
Stroke:	50-250 mm
Maximum Operating Pressure:	70 Mpa

Think Safety
 Manufacturer's rating of load and stroke are maximum safe limits. Good practice encourages using only 80% of these ratings.

- Lightweight, easy to carry and position to allow a higher cylinder capacity-to-weight-ratio
- Non-corrosive by design, aluminium has always been a good material for use in many caustic environments
- Composite Bearings on all moving surfaces guarantee no metal-to-metal contact, to resist side loads and increase cylinder life.

Aluminium Cylinders



Removable Hardened Saddle, protects plunger from being damaged by abrasive surface contact.

Stop Ring on all models absorbs eccentric loading and prevents plunger over-extension.

Composite Bearing material to prevent metal to metal contact, reducing side-load issues and increasing life.

Hard-coated Plunger and Base resist wear and prevent galling.

7075-T6 Aluminium Alloy Components for maximum strength and minimum weight.

Plunger Return Spring on all single-acting models for prompt cylinder return.

Composite Bearing material to prevent metal to metal contact, reducing side-load issues and increasing life.

Steel Base Plate protects cylinder base from abrasive surfaces and load-induced damage.



The contrast between aluminium and steel
 Aluminium cylinder provides the lightest solution while at the same time due to the material's features also has some unique limitations. It differs from a steel cylinder; it has a lower finite fatigue life. Aluminium cylinders shall not be used in production/production of high-frequency applications.
 BOQUN aluminium cylinder series design service life for the recommended pressure of 5000 working cycles. This limit should not be exceeded. In normal jacking and most maintenance operations, which should satisfy demand.



Steel plate
 The steel base plate protects the oil cylinder from damage and should not be removed. The bottom holes in these aluminium cylinders are designed to hold the steel in place. The bottom plate. They will not bear the cylinder workload. Do not use these aluminium cylinders on the bottom hole to place any. The device is connected to the cylinder.



from left to right:
RAC-5010, RAC-15010, RAC-304, RAC-208

Lightweight for Maximum Portability

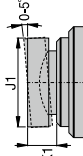
Capacity: **20-150 ton**
 Stroke: **50-250 mm**
 Maximum Operating Pressure: **70 Mpa**

Steel Base Plate Mounting Holes			
Cylinder Model / Capacity ton	Bolt Circle U (mm)	Thread V (mm)	Thread Depth Z (mm)
RAC-20	70	M6	12
RAC-30	80	M6	12
RAC-50	110	M6	12
RAC-100	150	M10	12
RAC-150	200	M10	12

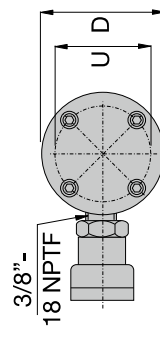
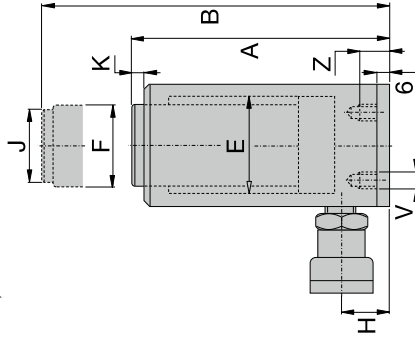
¹⁾ Including Base Plate Height of 6 mm

- Composite bearings prevent metal-to-metal contact, increasing cylinder life and resistance to side-loads of up to 10%
- Hard-Coat finish on all surfaces resists damage and extends cylinder life
- Handles included on all models
- Steel base plate and saddle for protection against load-induced damage
- Integral stop ring prevents plunger over-travel and is capable of withstanding the full cylinder capacity
- High strength return spring for rapid cylinder retraction
- CR-400 coupler and dustcap included on all models
- All cylinders meet ASME B-30.1 and ISO 10 100 standards.

Optional Bolt-on Tilt Saddle Dimensions (mm)			
For Cylinder Model / Capacity ton	Tilt Saddle Model Number	Tilt Saddle Diameter J1	Saddle Protrusion from Plunger K1
RAC-50	CATG-50	50	24
RAC-100	CATG-150	91	31
RAC-150	CATG-200	118	35



@ 700 bar Cylinder Capacity ton (kN)	Stroke (mm)	Model Number*	Cylinder Effective Area (cm ²)	Oil Capacity (cm ³)	Height A (mm)	Extended Height B (mm)	Outside Diameter D (mm)	Cylinder Bore Diameter E (mm)	Plunger Diameter F (mm)	Bottom to Advance Port H (mm)	Saddle Diameter J (mm)	Saddle Protrusion from Plunger K (mm)	Model Number*
20 (218)	50	RAC-202	31.2	156	174	224	85	63	50	27	40	3	3.6 RAC-202
	100	RAC-204	31.2	312	224	324	85	63	50	27	40	3	4.1 RAC-204
	150	RAC-206	31.2	468	274	424	85	63	50	27	40	3	4.6 RAC-206
	200	RAC-208	31.2	624	324	524	85	63	50	27	40	3	5.1 RAC-208
30 (309)	50	RAC-302	44.2	221	181	231	100	75	60	32	40	3	4.5 RAC-302
	100	RAC-304	44.2	442	231	331	100	75	60	32	40	3	5.2 RAC-304
	150	RAC-306	44.2	663	281	431	100	75	60	32	40	3	5.9 RAC-306
	200	RAC-308	44.2	884	331	531	100	75	60	32	40	3	6.6 RAC-308
50 (496)	50	RAC-502	70.9	354	186	236	130	95	80	30	50	3	7.3 RAC-502
	100	RAC-504	70.9	709	236	336	130	95	80	30	50	3	9.8 RAC-504
	150	RAC-506	70.9	1063	286	436	130	95	80	30	50	3	11.1 RAC-506
	200	RAC-508	70.9	1417	336	536	130	95	80	30	50	3	12.4 RAC-508
100 (1002)	50	RAC-1002	143.1	1771	386	636	180	135	110	46	94	3	13.7 RAC-1002
	100	RAC-1004	143.1	3542	486	736	180	135	110	46	94	3	17.3 RAC-1004
	150	RAC-1006	143.1	5313	586	836	180	135	110	46	94	3	19.6 RAC-1006
	200	RAC-1008	143.1	7084	686	936	180	135	110	46	94	3	21.9 RAC-1008
150 (1589)	50	RAC-1502	227.0	3578	421	671	230	170	140	51	113	3	26.5 RAC-1502
	100	RAC-1504	227.0	7156	521	771	230	170	140	51	113	3	29.3 RAC-1504
	150	RAC-1506	227.0	10734	621	871	230	170	140	51	113	3	33.3 RAC-1506
	200	RAC-1508	227.0	14312	721	971	230	170	140	51	113	3	37.3 RAC-1508
250	RAC-15010	227.0	17890	821	1071	230	170	140	51	113	3	41.3 RAC-15010	



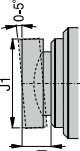
Saddles
 All RAC-cylinders are equipped with bolt-on removable hardened steel saddles. For Tilt Saddles see next page.



from left to right:
RAR-5010, RAR-308, RAR-204

Capacity: **20-150 ton**
Stroke: **50-250 mm**
Maximum Operating Pressure: **70 Mpa**

Optional Bolt-on Tilt Saddle Dimensions (mm)			
For Cylinder Model / Capacity ton	Tilt Saddle Model Number	Tilt Saddle Diameter J1	Saddle Protrusion from Plunger K1
RAC-50	CATG-50	50	24
RAC-100	CATG-150	73	29
RAC-150	CATG-200	91	31



- Double-acting for rapid retraction, regardless of hose lengths or system losses
- Composite bearings increase cylinder life and sideload resistance
- Hard-Coat finish on all surfaces resists damage and extends cylinder life
- Handles included on all models
- Steel base plate and saddle for protection against load-induced damage
- Integral stop ring prevents plunger over-travel and is capable of withstanding the full cylinder capacity
- Built-in safety valve prevents accidental over-pressurization.

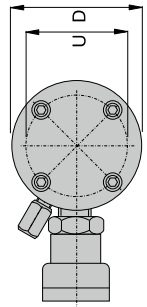
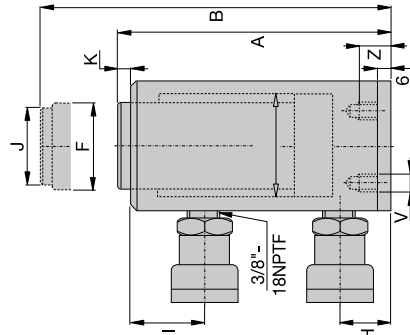


An RAR-506 was easy to position under a bulldozer for repair of frame member.



Saddles All RAR-cylinders are equipped with bolt-on removable hardened steel saddles. For Tilt Saddles see next page.

@ 700 bar Cylinder Capacity ton	Stroke (mm)	Model Number *	Capacity (kN)		Cylinder Effective Area (cm ²)		Oil Capacity (cm ³)		Height A (mm)	Extended Height B (mm)	Outside Diameter D (mm)	Cylinder Bore Diameter E (mm)	Plunger Diameter F (mm)	Bottom to Advance Port H (mm)	Saddle Diameter I (mm)	Saddle Protrusion from Plunger J (mm)	Saddle Protrusion from Plunger K (mm)	Model Number *	
			Push	Pull	Push	Pull	Push	Pull											
20	50	RAR-202	218	130	31.2	18.6	156	93	189	239	113	63	40	30	50	30	3	7.4	RAR-202
	100	RAR-204	218	130	31.2	18.6	186	186	239	339	113	63	40	30	50	30	3	8.0	RAR-204
	150	RAR-206	218	130	31.2	18.6	279	279	289	439	113	63	40	30	50	30	3	8.6	RAR-206
	200	RAR-208	218	130	31.2	18.6	372	372	339	539	113	63	40	30	50	30	3	9.2	RAR-208
30	250	RAR-2010	218	130	31.2	18.6	465	465	389	639	113	63	40	30	50	30	3	9.8	RAR-2010
	50	RAR-302	309	179	44.2	24.5	221	123	201	251	125	75	50	30	55	40	3	8.6	RAR-302
	100	RAR-304	309	179	44.2	24.5	245	245	251	351	125	75	50	30	55	40	3	9.5	RAR-304
	150	RAR-306	309	179	44.2	24.5	368	368	301	451	125	75	50	30	55	40	3	10.4	RAR-306
50	200	RAR-308	309	179	44.2	24.5	490	490	351	551	125	75	50	30	55	40	3	11.3	RAR-308
	250	RAR-3010	309	179	44.2	24.5	613	613	401	651	125	75	50	30	55	40	3	12.2	RAR-3010
	50	RAR-502	496	187	70.9	26.7	354	134	201	251	145	95	75	30	56	50	3	11.1	RAR-502
	100	RAR-504	496	187	70.9	26.7	709	267	251	351	145	95	75	30	56	50	3	12.7	RAR-504
100	150	RAR-506	496	187	70.9	26.7	1063	401	301	451	145	95	75	30	56	50	3	14.3	RAR-506
	200	RAR-508	496	187	70.9	26.7	1417	534	351	551	145	95	75	30	56	50	3	15.9	RAR-508
	250	RAR-5010	496	187	70.9	26.7	1771	668	401	651	145	95	75	30	56	50	3	17.5	RAR-5010
	50	RAR-1002	1002	557	143.1	79.5	715	398	251	301	185	135	90	43	80	75	3	16.4	RAR-1002
150	100	RAR-1004	1002	557	143.1	79.5	1431	795	301	401	185	135	90	43	80	75	3	19.3	RAR-1004
	150	RAR-1006	1002	557	143.1	79.5	2147	1193	351	501	185	135	90	43	80	75	3	22.2	RAR-1006
	200	RAR-1008	1002	557	143.1	79.5	2863	1590	401	601	185	135	90	43	80	75	3	25.1	RAR-1008
	250	RAR-10010	1002	557	143.1	79.5	3578	1988	451	701	185	135	90	43	80	75	3	28.0	RAR-10010
150	50	RAR-1502	1589	924	227.0	132.0	1135	660	248	298	230	170	110	38	75	113	3	24.2	RAR-1502
	100	RAR-1504	1589	924	227.0	132.0	2270	1320	298	398	230	170	110	38	75	113	3	28.9	RAR-1504
	150	RAR-1506	1589	924	227.0	132.0	3405	1980	348	498	230	170	110	38	75	113	3	33.2	RAR-1506
	200	RAR-1508	1589	924	227.0	132.0	4540	2640	398	598	230	170	110	38	75	113	3	37.9	RAR-1508
250	RAR-15010	1589	924	227.0	132.0	5675	3300	448	698	230	170	110	38	75	113	3	42.6	RAR-15010	

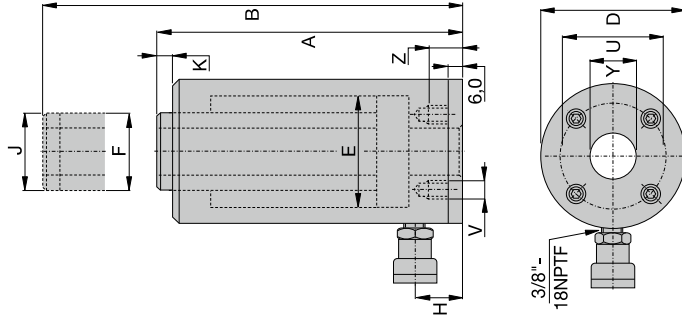


The Lightweight Solution for Tensioning and Testing



Capacity: **20-150 ton**
 Stroke: **50-250 mm**
 Center Hole Diameter: **27-79 mm**
 Maximum Operating Pressure: **70 Mpa**

from left to right:
 RACH-1504, RACH-15010, RACH-206, RACH-306



- Hollow plunger design allows for both pull and push forces
- Composite bearings increase cylinder life and sideload resistance
- Hard-Coat finish on all surfaces resists damage and extends cylinder life
- Floating center tube increases seal and product life
- Handles standard on all models
- Steel base plate and saddle for protection against load-induced damage
- Integral stop ring prevents plunger over-travel and is capable of withstanding the full cylinder capacity
- High strength return spring for rapid cylinder retraction.

Cylinder Model / Capacity	Steel Base Plate Mounting Holes		
	Bolt Circle U (mm)	Thread V (mm)	Thread Depth Z (mm)
RACH-20	70	M6	12
RACH-30	110	M6	12
RACH-60	160	M6	12
RACH-100	220	M10	12
RACH-150	245	M10	12

¹⁾ Including Base Plate Height of 6 mm



An RACH-306 powered by a P-392 hand pump used to extract corroded carriage pins of refuse collection vehicles.



Saddles
 All RACH-cylinders are equipped with bolt-on hollow removable saddles of hardened steel.

@ 700 bar Cylinder Capacity ton (kN)	Stroke (mm)	Model Number *	Cylinder Effective Area (cm ²)	Oil Capacity (cm ³)	Height A (mm)	Extended Height B (mm)	Outside Diameter D (mm)	Cylinder Bore Diameter E (mm)	Plunger Diameter F (mm)	Bottom to Advance Port H (mm)	Saddle Diameter J (mm)	Saddle Protrusion from Plunger K (mm)	Center hole Diameter Y (mm)	Model Number *
20 (229)	50	RACH-202	32.7	164	188	238	100	75	55	29	55	10	27	RACH-202
	100	RACH-204	32.7	327	251	351	100	75	55	29	55	10	27	RACH-204
	150	RACH-206	32.7	491	315	465	100	75	55	29	55	10	27	RACH-206
	200	RACH-208	32.7	654	378	578	100	75	55	29	55	10	27	RACH-208
30 (358)	250	RACH-2010	32.7	818	442	692	100	75	55	29	55	10	27	RACH-2010
	50	RACH-302	51.1	256	208	258	130	95	70	29	70	10	34	RACH-302
	100	RACH-304	51.1	511	267	367	130	95	70	29	70	10	34	RACH-304
	150	RACH-306	51.1	766	333	483	130	95	70	29	70	10	34	RACH-306
60 (696)	200	RACH-308	51.1	1022	395	595	130	95	70	29	70	10	34	RACH-308
	250	RACH-3010	51.1	1277	458	708	130	95	70	29	70	10	34	RACH-3010
	50	RACH-602	84.7	423	251	301	180	130	100	61	100	12	54	RACH-602
	100	RACH-604	84.7	847	315	415	180	130	100	61	100	12	54	RACH-604
100 (1157)	150	RACH-606	84.7	1270	380	530	180	130	100	61	100	12	54	RACH-606
	200	RACH-608	84.7	1694	445	645	180	130	100	61	100	12	54	RACH-608
	250	RACH-6010	84.7	2117	510	760	180	130	100	61	100	12	54	RACH-6010
	50	RACH-1002	164.6	823	258	308	250	185	145	61	145	14	79	RACH-1002
150 (1588)	100	RACH-1004	164.6	1646	325	425	250	185	145	61	145	14	79	RACH-1004
	150	RACH-1006	164.6	2487	391	541	250	185	145	61	145	14	79	RACH-1006
	200	RACH-1008	164.6	3291	459	659	250	185	145	61	145	14	79	RACH-1008
	250	RACH-10010	164.6	4114	527	777	250	185	145	61	145	14	79	RACH-10010
150 (1588)	50	RACH-1502	225.8	1129	280	330	275	205	150	61	145	14	79	RACH-1502
	100	RACH-1504	225.8	2258	360	460	275	205	150	61	145	14	79	RACH-1504
	150	RACH-1506	225.8	3387	430	580	275	205	150	61	145	14	79	RACH-1506
	200	RACH-1508	225.8	4517	500	700	275	205	150	61	145	14	79	RACH-1508
250	RACH-15010	225.8	5646	570	820	275	205	150	61	145	14	79	RACH-15010	



from left to right:
RACL-1006, RACL-504, RACL-5010

Capacity: **20-150 ton**
Stroke: **50-250 mm**
Maximum Operating Pressure: **70 Mpa**

Optional Bolt-on Tilt Saddle Dimensions (mm)

For Cylinder Model / Capacity ton	Tilt Saddle Model Number	Tilt Saddle Diameter J1	Saddle Protrusion from Plunger K1
RAC-50	CATG-50	50	24
RAC-100	CATG-150	91	31
RAC-150	CATG-200	118	35

Steel Base Plate Mounting Holes

Cylinder Model / Capacity ton	Bolt Circle U (mm)	Thread V (mm)	Thread Depth Z (mm)
RACH-20	70	M6	12
RACH-30	80	M6	12
RACH-50	110	M6	12
RACH-100	150	M10	12
RACH-150	200	M10	12

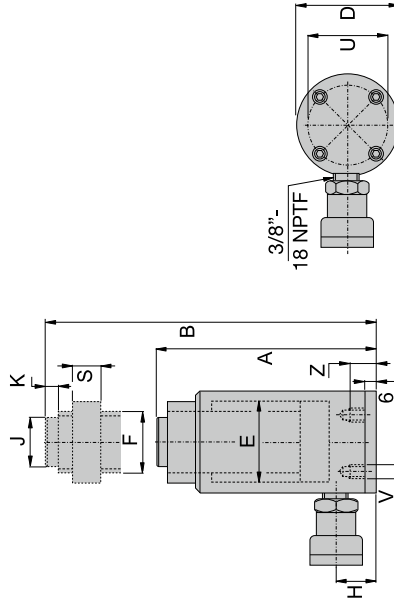
¹⁾ Including Base Plate Height of 6 mm



The portable lock nut cylinder RACL-1506 used for extended load supports during epoxy injection for bridge reinforcement.



Saddles
All RACL-cylinders are equipped with bolt-on removable hardened steel saddles.
For Tilt Saddles see next page.



- Aluminium Lock Nut provides mechanical load holding for extended periods
- Hardened steel stop ring increasing cylinder life and resistance to side-loads of up to 5%
- Hard-Coat finish on all surfaces resists damage and extends cylinder life
- Composite bearings increase cylinder life and side load resistance
- Handles included on all models
- Steel base plate and saddle for protection against load-induced damage
- Integral stop ring prevents plunger over-travel and is capable of withstanding the full cylinder capacity
- High strength return spring for rapid cylinder retraction
- CR-400 coupler and dustcap included on all models
- All cylinders meet ASME B-30.1 and ISO 10100 standards.

@ 700 bar Cylinder Capacity ton (kN)	Stroke (mm)	Model Number *	Cylinder Effective Area (cm ²)	Oil Capacity (cm ³)	Height A (mm)	Extended Height B (mm)	Outside Diameter D (mm)	Cylinder Bore Diameter E (mm)	Plunger Diameter F (mm)	Bottom to Advance Port H (mm)	Saddle Diameter J (mm)	Saddle Protrusion from Plunger K (mm)	Lock nut Height S (mm)	Model Number *
20 (218)	50	RACL-202	31.2	156	224	274	85	63	Tr 55 x 4	27	40	3	50	RACL-202
	100	RACL-204	31.2	312	274	374	85	63	Tr 55 x 4	27	40	3	50	RACL-204
	150	RACL-206	31.2	468	324	474	85	63	Tr 55 x 4	27	40	3	50	RACL-206
30 (309)	200	RACL-208	31.2	624	374	574	85	63	Tr 55 x 4	27	40	3	50	RACL-208
	250	RACL-2010	31.2	780	424	674	85	63	Tr 55 x 4	27	40	3	50	RACL-2010
	50	RACL-302	44.2	221	231	281	100	75	Tr 60 x 4	33	40	3	50	RACL-302
50 (496)	100	RACL-304	44.2	442	281	381	100	75	Tr 60 x 4	33	40	3	50	RACL-304
	150	RACL-306	44.2	663	331	481	100	75	Tr 60 x 4	33	40	3	50	RACL-306
	200	RACL-308	44.2	883	381	581	100	75	Tr 60 x 4	33	40	3	50	RACL-308
100 (1002)	250	RACL-3010	44.2	1105	431	681	100	75	Tr 60 x 4	33	40	3	50	RACL-3010
	50	RACL-502	70.9	354	236	286	130	95	Tr 80 x 4	30	50	3	50	RACL-502
	100	RACL-504	70.9	709	286	386	130	95	Tr 80 x 4	30	50	3	50	RACL-504
150 (1589)	150	RACL-506	70.9	1063	336	486	130	95	Tr 80 x 4	30	50	3	50	RACL-506
	200	RACL-508	70.9	1417	386	586	130	95	Tr 80 x 4	30	50	3	50	RACL-508
	250	RACL-5010	70.9	1771	436	686	130	95	Tr 80 x 4	30	50	3	50	RACL-5010
200 (2002)	50	RACL-1002	143.1	716	296	346	180	135	Tr 110 x 6	46	94	3	75	RACL-1002
	100	RACL-1004	143.1	1431	346	446	180	135	Tr 110 x 6	46	94	3	75	RACL-1004
	150	RACL-1006	143.1	2147	396	546	180	135	Tr 110 x 6	46	94	3	75	RACL-1006
300 (3002)	200	RACL-1008	143.1	2863	446	646	180	135	Tr 110 x 6	46	94	3	75	RACL-1008
	250	RACL-10010	143.1	3578	496	746	180	135	Tr 110 x 6	46	94	3	75	RACL-10010
	50	RACL-1502	227.0	1135	323	373	230	170	Tr 140 x 6	51	113	3	80	RACL-1502
400 (4002)	100	RACL-1504	227.0	2270	373	473	230	170	Tr 140 x 6	51	113	3	80	RACL-1504
	150	RACL-1506	227.0	3405	423	523	230	170	Tr 140 x 6	51	113	3	80	RACL-1506
	200	RACL-1508	227.0	4540	473	673	230	170	Tr 140 x 6	51	113	3	80	RACL-1508
250	RACL-15010	227.0	5675	523	773	230	170	Tr 140 x 6	51	113	3	80	RACL-15010	