

CATALOGUE FRONT-END CYLINDERS



HYVA[®] TIPPING
SOLUTIONS



WELCOME TO HYVA

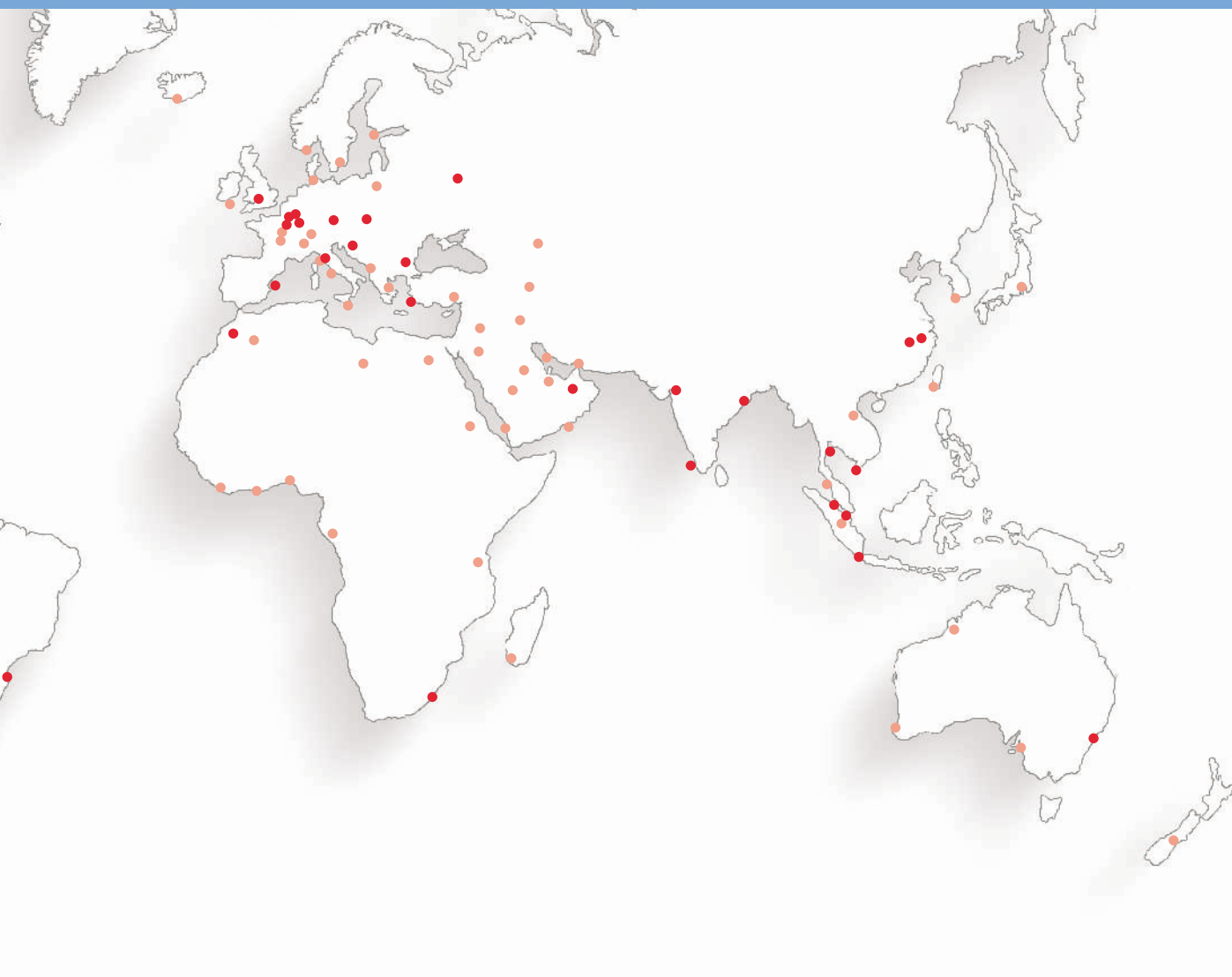
Hyva Group is a leading global provider of innovative and highly efficient transport solutions for the commercial vehicle and environmental service industries.

The company is committed to the development, production, marketing and distribution of components used in hydraulic loading and unloading systems on trucks and trailers.

Our products are used worldwide across a range of sectors including transport, construction, mining, materials handling and environmental services providers. Hyva's portfolio comprises: Tipping Solutions (cylinders and tipping gear), Container Handling Systems (hookloaders and skiploaders), Waste Handling Systems (transfer stations, compactors and refuse collection bodies), Floors (horizontal unloading/loading floors) and Cranes (fixed and rolling).

Hyva: Your Trusted Partner.





OUR COMPANY

Founded in 1979 in The Netherlands, Hyva has significant manufacturing facilities in Brazil, China, Germany, India and Italy.

Operating in more than 130 countries the company has more than 2,000 employees around the world, encompassing 39 subsidiaries and 13 production facilities.

Hyva products are now recognised as clear leaders in their fields. Our development engineers combine a unique blend of experience and expertise. They know what works, and what will still be working in 10 years time. Hyva products are fully certified to quality standards ISO9001:2008 and ISO14001:2004.

A core part of Hyva's culture is to lead our industry by introducing new products with new ideas and new specifications. Working closely with over 25,000 customers in 130 countries offers us a huge source of knowledge and experience - and hence a unique opportunity to continuously improve the products we offer. Our local application engineers understand all the various market and legal requirements, and are therefore your key advisors for optimum product selection.

Yet Hyva is much more than its products alone. Customer care is also fundamental. As a result, our Hyva Care programme provides a comprehensive range of after-sales support services.

Hyva: The Complete Solution.

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Introduction

Hyva's telescopic front-end cylinders are designed for dump trucks and tipping semitrailers. Our tipping cylinders have earned their reputation for reliability and value for money over many years with hundreds of thousands cylinders working around the world, in all weather conditions, confirming Hyva as the world leader in the production of telescopic cylinders. Hyva designs and manufactures a complete range of telescopic tipping cylinders, both for front-end and underbody applications. The Hyva cylinder is lightweight, uses less oil and therefore tips and lowers faster and is strong, stable and maintenance free.

Hyva telescopic cylinders

Hyva front-end cylinder range

The standard Hyva cylinder range includes Front-end Cylinders with

- Outer Cover (FC)
- With Eye (FE)
- Eye/Eye (FSE)
- Eye/Eye (FEE)

Tipping capacity ranges up to 90 tons. In addition to our standard features, Hyva offers options such as a double acting last stage. The piston of each front-end cylinder is hard chromed.

The standard FC-range consists of cylinders with a first stage diameter of 110 to 226 mm and a stroke ranging from 3100 to 9530. The standard FE/FSE/FEE-range consists of cylinders with a first stage diameter from 110 to 226 and a stroke ranging from 2785 to 9030. Tippers with sloping headboard generally are fitted with an FE/FSE/FEE cylinder or FC with a short cover.

Segmentation

Hyva has designed based on different requirements of different user's suitable cylinders for different application areas. Our product range is developed to withstand all conditions in the Construction, Transportation or Mining segment.

Construction and Transportation

Hyva standard Alpha cylinder with the standard operating pressure up to 250 bar, providing best all round performance through combination of reduced weight, increased tipping speed and the stability required for these application.

Mining

Hyva Heavy Duty (HD) Alpha cylinder designed to perform at high speed in heavy duty conditions. The Heavy Duty Alpha cylinders has bigger overlaps and the stop and lift faces are designed to permit exceptionally high tipping and lowering speed increases up to 50%.

Modular design

Thanks to the modular design Hyva can offer a complete range of tipping cylinders assembled to order. Our flexible manufacturing is your best guarantee for a minimum delivery time for the standard range of cylinders. The use of top quality materials keeps wear at a minimum and maintenance simple. For service no special tools are required.

Quality

All Hyva cylinders are fully tested before dispatch (pressure tests up to 1¼ times working pressure). Our customers all over the world acknowledge our reliability. The ISO 9001 standard held since 1991 is your assurance of optimum quality, safety and professionalism.

After sales service

Whatever the age of your equipment and wherever it is working, Hyva's world-wide service network will support you. In case of technical trouble you will be back on the road in no time.

Code system tipping cylinders

FC A191 - 5 - 07130 - 000 - K0343 - XX

FC	A	191	5	7130	000	K0343	XX		
FC								Cylinder type description	
	A							Alpha cylinder range	
		191						Effective diameter first stage	
			5					Number of extensions	
				7130				Total stroke in mm (pull-out incorporated)	
					0			Code E1 concerning fitting to base	
						0		Code E2 concerning fitting to hydraulic system	
							0	Code E3 concerning fitting to body	
							K0343	Closed length	
								XX	Other options

Cylinder type description

- FC - front-end cylinder with outer cover
- FE - front-end cylinder with piston eye
- FEE - front-end cylinder with piston eye and bottom eye and pin
- FSE - front-end cylinder with piston eye and bottom eye
- FCE - front-end cylinder with outer cover and bottom eye

Code E1 concerning fitting to base

- 0 standard trunnion at standard position
- 2 double eye trunnion with bush (FEE)
- 4 single spherical eye (FSE)

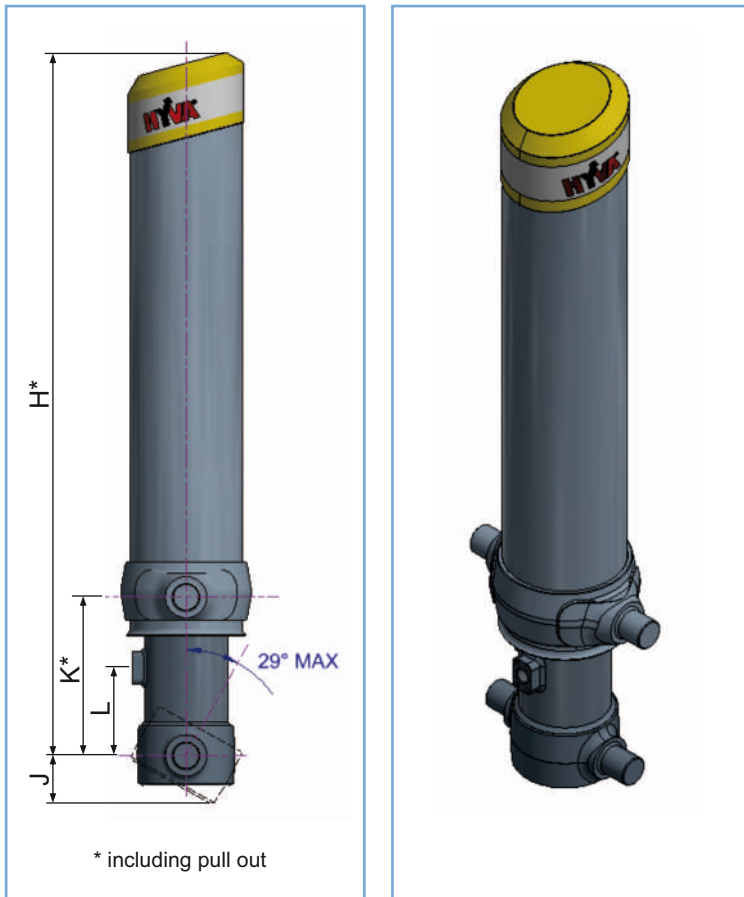
Code E2 concerning fitting to hydraulics

- 0 standard inlet at standard front position
- 1 standard inlet at non-standard front position
- 7 standard inlet at side

Code E3 concerning fitting to body

- 0 standard cover
- 1 standard spherical eye
- 2 fixed eye with bush
- 4 non standard cover
- 9 special cover or piston

Front-end cylinder with outer cover



- For all cylinders a different stroke can be requested.
- All cylinders can be ordered in Hard Chromed (HC) version.
- Below K-dimensions are available as standard.
 - K= 343mm
 - K= 486mm
 - K= 550mm
 - K= 900mm
 - K= 1050mm
- All other K-dimensions are on request.
- Below L-dimensions are available as standard.
 - L= 190mm
 - L= 290mm
- All other L-dimensions are on request.
- All cylinders incl. 20 mm pull out with tolerances of -5/+30mm.

FC A110

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 23 160	FC A110-3-03235-000-K0343	250	28 - 50	130	24	4/4BSP	1402	86	343	190
705 23 180	FC A110-3-03490-000-K0343	250	28 - 46	137	26	4/4BSP	1492	86	343	190

FC A118

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
701 24 180	FC A118-3-03490-000-K0343	250	34 - 61	176	30	4/4BSP	1492	88	343	190
701 24 200	FC A118-3-03730-000-K0343	250	34 - 57	183	32	4/4BSP	1572	88	343	190
701 24 230	FC A118-3-03880-000-K0343	250	33 - 55	190	34	4/4BSP	1642	88	343	190

FC A129

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 24 174	FC A129-3-03100-009-K0550	250	46 - 64	186	34	4/4BSP	1489	91	550	190
705 24 180	FC A129-3-03490-000-K0343	250	45 - 60	186	37	4/4BSP	1492	91	343	190
705 24 210	FC A129-3-03880-000-K0343	250	44 - 58	206	41	4/4BSP	1642	91	343	190
705 24 240	FC A129-3-04270-000-K0343	250	45 - 61	219	45	4/4BSP	1772	91	343	190
705 24 254	FC A129-4-04320-000-K0343	250	29 - 49	195	39	4/4BSP	1402	91	343	190
705 24 292	FC A129-4-04660-000-K0343	250	29 - 46	204	42	4/4BSP	1492	91	343	190
705 24 400	FC A129-4-04980-000-K0343	250	28 - 48	213	45	4/4BSP	1572	91	343	190
705 24 410	FC A129-4-05180-000-K0343	250	28 - 47	221	47	4/4BSP	1642	91	343	190

FC A137

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
701 25 220	FC A137-4-04320-000-K0343	250	37 - 55	202	45	4/4BSP	1402	92	343	190
701 25 292	FC A137-4-04660-000-K0343	250	36 - 53	213	49	4/4BSP	1492	92	343	190
701 25 360	FC A137-4-04980-000-K0343	250	35 - 53	222	52	4/4BSP	1572	92	343	190
701 25 364	FC A137-4-04980-004-K1050	250	35 - 52	202	52	4/4BSP	1569	92	1050	190
701 25 410	FC A137-4-05180-000-K0343	250	35 - 53	231	54	4/4BSP	1642	92	343	190

FC A149

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 25 190	FC A149-4-03720-000-K0343	250	46 - 60	199	47	4/4BSP	1252	95	343	190
705 25 200	FC A149-3-03720-000-K0343	250	64 - 87	239	54	4/4BSP	1572	95	343	190
705 25 220	FC A149-3-03880-000-K0343	250	64 - 84	248	56	4/4BSP	1642	95	343	190
705 25 240	FC A149-4-04090-000-K0343	250	67 - 88	257	59	4/4BSP	1712	95	343	190
705 25 358	FC A149-4-04030-079-K0343	250	48 - 57	219	52	4/4BSP	1402	95	343	190
705 25 370	FC A149-4-04320-000-K0343	250	48 - 56	219	54	4/4BSP	1402	95	343	190
705 25 374	FC A149-4-04420-079-K0343	250	47 - 60	230	57	4/4BSP	1492	95	343	190
705 25 380	FC A149-4-04500-070-K0343	250	47 - 60	225	57	4/4BSP	1452	95	343	190
705 25 388	FC A149-4-04660-070-K0343	250	46 - 59	230	59	4/4BSP	1492	95	343	190
705 25 394	FC A149-4-04980-000-K0343	250	46 - 60	241	63	4/4BSP	1572	95	343	190
705 25 408	FC A149-4-05180-000-K0343	250	45 - 59	250	65	4/4BSP	1642	95	343	190
705 25 424	FC A149-4-05460-070-K0343	250	45 - 59	259	69	4/4BSP	1712	95	343	190
705 25 450	FC A149-4-05700-000-K0343	250	45 - 57	267	72	4/4BSP	1772	95	343	190

FC A157

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
701 26 360	FC A157-4-04980-000-K0343	250	54 - 82	257	71	4/4BSP	1572	102	343	190
701 26 416	FC A157-5-05405-074-K1050	250	36 - 50	230	68	4/4BSP	1399	102	1050	290
701 26 424	FC A157-4-05460-000-K0343	250	53 - 85	277	78	4/4BSP	1712	102	343	190
701 26 470	FC A157-5-05830-000-K0343	250	35 - 49	262	73	4/4BSP	1492	102	343	190
701 26 490	FC A157-5-06230-000-K0343	250	35 - 48	274	78	4/4BSP	1572	102	343	190
701 26 550	FC A157-5-06830-000-K0343	250	34 - 46	295	86	4/4BSP	1712	102	343	190
701 26 590	FC A157-5-07130-000-K0343	250	34 - 47	304	90	4/4BSP	1772	102	343	190

FC A169

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 26 290	FC A169-4-04660-000-K0343	250	68 - 86	283	78	4/4BSP	1492	105	343	190
705 26 336	FC A169-5-05005-009-K0343	250	47 - 58	268	78	4/4BSP	1402	105	343	190
705 26 342	FC A169-5-05030-009-K1050	250	47 - 59	264	81	4/4BSP	1329	105	1050	190
705 26 350	FC A169-4-05180-000-K0343	250	66 - 81	307	87	4/4BSP	1642	105	343	190
705 26 410	FC A169-5-05405-000-K0343	250	46 - 56	268	80	4/4BSP	1402	105	343	190
705 26 424	FC A169-4-05460-000-K0343	250	65 - 83	318	92	4/4BSP	1712	105	343	190
705 26 450	FC A169-5-05830-000-K0343	250	46 - 58	282	87	4/4BSP	1492	105	343	190
705 26 490	FC A169-5-06230-000-K0343	250	45 - 57	295	93	4/4BSP	1572	105	343	190
705 26 528	FC A169-5-06480-014-K1050	250	45 - 56	292	97	4/4BSP	1639	105	1050	290
705 26 550	FC A169-5-06830-000-K0343	250	45 - 55	319	102	4/4BSP	1642	105	343	190
705 26 580	FC A169-5-07130-000-K0343	250	44 - 56	329	106	4/4BSP	1772	105	343	190
705 26 610	FC A169-4-07220-004-K0343	220	55 - 78	400	121	4/4BSP	2222	105	343	190
705 26 680	FC A169-5-07630-004-K0343	220	38 - 55	352	114	4/4BSP	1912	105	343	190
705 26 710	FC A169-5-08130-004-K0343	190	33 - 47	369	121	4/4BSP	2012	105	343	190
705 26 790	FC A169-5-08530-004-K0343	170	29 - 40	387	127	4/4BSP	2122	105	343	190
705 26 844	FC A169-5-09000-009-K0900	150	26 - 34	408	138	4/4BSP	2319	105	900	190
705 26 866	FC A169-5-09030-000-K0486	150	26 - 35	400	135	4/4BSP	2215	105	486	190
705 26 906	FC A169-5-09530-004-K0343	150	26 - 34	420	142	4/4BSP	2322	105	343	190

FC A179

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
701 27 424	FC A179-4-05460-000-K0343	250	75 - 99	359	103	4/4BSP	1712	108	343	190
701 27 550	FC A179-5-06830-000-K0343	250	53 - 65	381	115	4/4BSP	1712	108	343	190
701 27 590	FC A179-5-07130-000-K0343	250	52 - 67	393	120	4/4BSP	1772	108	343	190
701 27 650	FC A179-5-08130-000-K0486	190	39 - 54	435	137	4/4BSP	2015	108	486	190
701 27 710	FC A179-5-09030-014-K0900	150	30 - 41	422	152	4/4BSP	2229	108	900	290

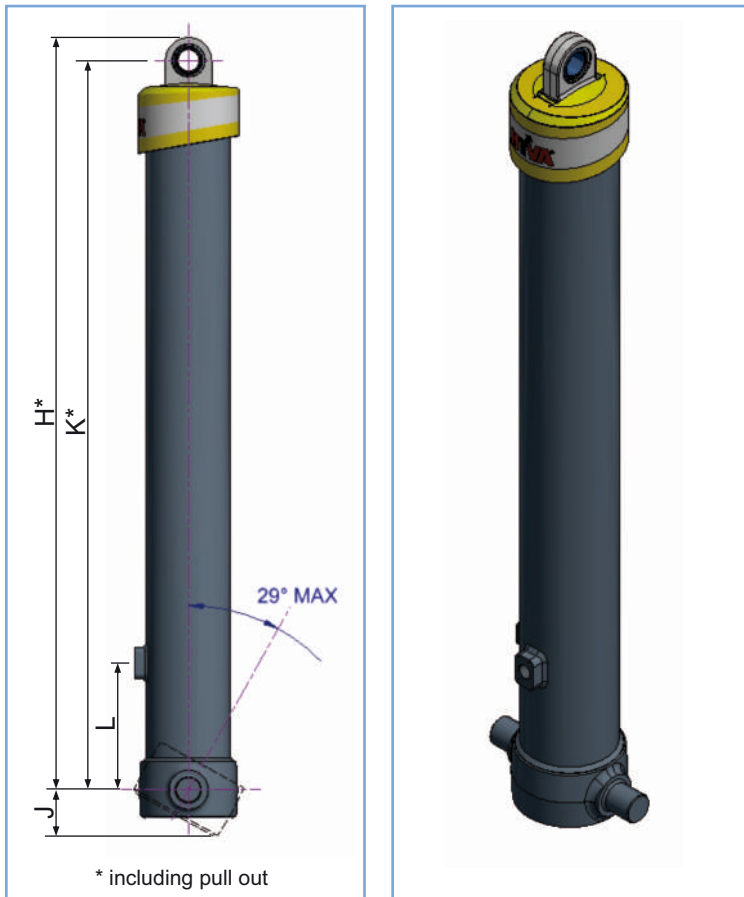
FC A191

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 27 424	FC A191-4-05460-000-K0343	250	90 - 98	379	119	4/4BSP	1712	115	343	190
705 27 470	FC A191-6-06040-000-K0343	250	47 - 55	341	106	4/4BSP	1332	115	343	190
705 27 490	FC A191-5-06230-000-K0343	250	66 - 77	376	122	4/4BSP	1572	115	343	190
705 27 550	FC A191-5-06830-000-K0343	250	65 - 79	405	134	4/4BSP	1712	115	343	190
705 27 570	FC A191-6-07000-000-K0343	250	45 - 57	376	122	4/4BSP	1492	115	343	190
705 27 580	FC A191-5-07130-000-K0343	250	65 - 79	418	139	4/4BSP	1772	115	343	190
705 27 640	FC A191-5-07630-004-K0343	250	64 - 77	447	149	4/4BSP	1912	115	343	190
705 27 716	FC A191-5-08130-004-K0343	220	56 - 79	468	159	4/4BSP	2012	115	343	190
705 27 780	FC A191-6-08200-000-K0343	250	44 - 55	426	144	4/4BSP	1712	115	343	190
705 27 856	FC A191-5-09030-004-K0343	170	43 - 57	507	177	4/4BSP	2225	115	343	190
705 27 892	FC A191-6-09160-004-K0343	190	33 - 46	470	160	4/4BSP	1912	115	343	190
705 27 920	FC A191-5-09530-000-K0486	150	37 - 49	528	186	4/4BSP	2325	115	486	190

FC A214

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 28 490	FC A214-5-06230-000-K0343	220	80 - 101	429	156	4/4BSP	1552	133	343	190
705 28 550	FC A214-5-06830-004-K0486	220	79 - 97	457	171	4/4BSP	1695	133	486	190
705 28 632	FC A214-5-07430-000-K0486	220	78 - 100	497	186	4/4BSP	1815	133	486	190
705 28 680	FC A214-5-07630-000-K0486	220	78 - 101	516	191	4/4BSP	1895	133	486	190
705 28 720	FC A214-5-08130-000-K0486	220	77 - 99	540	204	4/4BSP	1995	133	486	190
705 28 780	FC A214-6-08200-004-K0486	220	57 - 76	483	186	4/4BSP	1695	133	486	190
705 28 808	FC A214-5-08530-004-K1050	190	66 - 89	546	214	4/4BSP	2109	133	1050	190
705 28 814	FC A214-6-08560-004-K1050	190	49 - 68	478	194	4/4BSP	1759	133	1050	190
705 28 856	FC A214-5-09030-000-K0486	190	66 - 88	590	227	4/4BSP	2205	133	486	190
705 28 882	FC A214-6-09160-004-K0550	190	48 - 67	533	207	4/4BSP	1899	133	550	190
705 28 920	FC A214-5-09530-004-K0343	170	58 - 77	620	239	4/4BSP	2302	133	343	190

Front-end cylinder with eye



- For all cylinders a different stroke can be requested.
- All cylinders can be ordered in Hard Chromed (HC) version.
- Below L-dimensions are available as standard.
 - L= 190mm
 - L= 290mm
 - L= 700mm
- All other L-dimensions are on request.
- All cylinders incl. 20 mm pull out with tolerances of -5/+30mm.

FE A110

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 43 100	FE A110-3-02785-001-K1215	250	29 - 51	90	21	4/4BSP	1268	86	1215	190
705 43 104	FE A110-3-02785-009-K1250	250	29 - 51	91	21	4/4BSP	1303	86	1250	190
705 43 164	FE A110-3-03235-009-K1395	250	28 - 49	100	24	4/4BSP	1448	86	1395	190
705 43 180	FE A110-3-03490-001-K1450	250	27 - 49	106	26	4/4BSP	1503	86	1450	190
705 43 220	FE A110-3-03730-001-K1530	250	27 - 45	11	28	4/4BSP	1583	86	1530	190

FE A118

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
701 44 180	FE A118-3-03490-001-K1450	250	34 - 60	114	30	4/4BSP	1503	88	1450	190
701 44 200	FE A118-3-03730-001-K1530	250	33 - 60	120	32	4/4BSP	1583	88	1530	190
701 44 230	FE A118-3-03880-001-K1600	250	33 - 57	125	34	4/4BSP	1653	88	1600	190

FE A129

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 44 130	FE A129-3-03010-001-K1290	250	45 - 61	117	32	4/4BSP	1343	91	1290	190
705 44 180	FE A129-3-03490-001-K1450	250	44 - 61	130	37	4/4BSP	1503	91	1450	190
705 44 230	FE A129-3-03880-001-K1600	250	43 - 59	142	41	4/4BSP	1653	91	1600	190
705 44 420	FE A129-4-05460-001-K1670	190	21 - 37	164	50	4/4BSP	1723	91	1670	190

FE A137

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
701 45 224	FE A137-3-03880-009-K1635	250	51 - 81	151	47	4/4BSP	1688	92	1635	190
701 45 250	FE A137-4-04320-001-K1365	250	36 - 52	145	45	4/4BSP	1418	92	1365	190
701 45 292	FE A137-4-04660-001-K1450	250	35 - 54	154	49	4/4BSP	1503	92	1450	190
701 45 360	FE A137-4-04980-001-K1530	220	31 - 52	161	52	4/4BSP	1583	92	1530	190

FE A149

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 45 230	FE A149-3-03880-009-K1645	250	62 - 83	168	56	4/4BSP	1698	95	1645	190
705 45 264	FE A149-4-04320-001-K1365	250	47 - 61	162	54	4/4BSP	1418	95	1365	190
705 45 292	FE A149-4-04660-001-K1450	250	45 - 60	171	59	4/4BSP	1503	95	1450	190
705 45 296	FE A149-4-04660-009-K1485	250	45 - 60	172	59	4/4BSP	1538	95	1485	190
705 45 360	FE A149-4-04980-001-K1530	250	45 - 60	180	63	4/4BSP	1583	95	1530	190
705 45 374	FE A149-4-05180-011-K1600	220	39 - 57	187	65	4/4BSP	1653	95	1600	700

FE A157

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
701 46 260	FE A157-4-04320-011-K1364	250	55 - 85	178	62	4/4BSP	1417	102	1364	290
701 46 296	FE A157-4-04660-019-K1484	250	54 - 83	189	67	4/4BSP	1537	102	1484	290
701 46 400	FE A157-5-05405-011-K1364	250	35 - 48	193	68	4/4BSP	1417	102	1364	290
701 46 420	FE A157-4-05460-011-K1669	220	46 - 80	214	78	4/4BSP	1722	102	1669	290
701 46 506	FE A157-5-05830-011-K1449	190	27 - 47	204	73	4/4BSP	1502	102	1449	700
701 46 530	FE A157-5-06230-001-K1529	190	26 - 45	214	78	4/4BSP	1582	102	1529	190
701 46 550	FE A157-5-06830-001-K1669	150	20 - 33	233	86	4/4BSP	1722	102	1669	190
701 46 590	FE A157-5-07130-011-K1729	135	18 - 26	241	90	4/4BSP	1782	102	1729	700

FE A169

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 46 326	FE A169-4-04980-011-K1529	250	66 - 84	227	84	4/4BSP	1582	105	1529	290
705 46 358	FE A169-4-05180-011-K1599	250	65 - 83	227	87	4/4BSP	1652	105	1599	290
705 46 382	FE A169-5-05300-079-K1449	250	46 - 56	227	83	4/4BSP	1502	105	1449	190
705 46 404	FE A169-5-05405-019-K1394	250	46 - 58	213	80	4/4BSP	1447	105	1394	700
705 46 406	FE A169-5-05420-019-K1529	250	45 - 58	226	84	4/4BSP	1582	105	1529	700
705 46 420	FE A169-4-05460-011-K1669	250	65 - 81	227	92	4/4BSP	1722	105	1669	290
705 46 466	FE A169-5-05830-009-K1529	220	40 - 56	226	87	4/4BSP	1582	105	1529	190
705 46 526	FE A169-5-06230-011-K1529	190	34 - 52	236	93	4/4BSP	1582	105	1529	290
705 46 540	FE A169-5-06480-011-K1599	190	34 - 56	247	97	4/4BSP	1652	105	1599	290
705 46 556	FE A169-5-06830-011-K1669	170	30 - 48	257	102	4/4BSP	1722	105	1669	700
705 46 584	FE A169-5-07030-019-K1729	170	30 - 42	265	106	4/4BSP	1782	105	1729	290
705 46 588	FE A169-5-07080-019-K1789	170	30 - 43	274	108	4/4BSP	1842	105	1789	290
705 46 640	FE A169-5-07630-011-K1869	170	29 - 40	286	114	4/4BSP	1922	105	1869	700

FE A179

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
701 47 420	FE A179-4-05460-011-K1677	250	74 - 99	259	103	4/4BSP	1739	108	1677	290
701 47 470	FE A179-5-05830-001-K1457	220	47 - 69	246	98	4/4BSP	1510	108	1457	190
701 47 490	FE A179-4-06100-011-K1877	190	55 - 90	288	115	4/4BSP	1930	108	1877	290
701 47 500	FE A179-5-06230-001-K1537	190	40 - 69	258	105	4/4BSP	1590	108	1537	190
701 47 550	FE A179-5-06830-011-K1677	170	35 - 57	281	115	4/4BSP	1730	108	1677	290
701 47 586	FE A179-5-07030-019-K1737	170	35 - 50	290	119	4/4BSP	1790	108	1737	290
701 47 650	FE A179-5-07430-011-K1797	150	31 - 43	300	125	4/4BSP	1850	108	1797	700

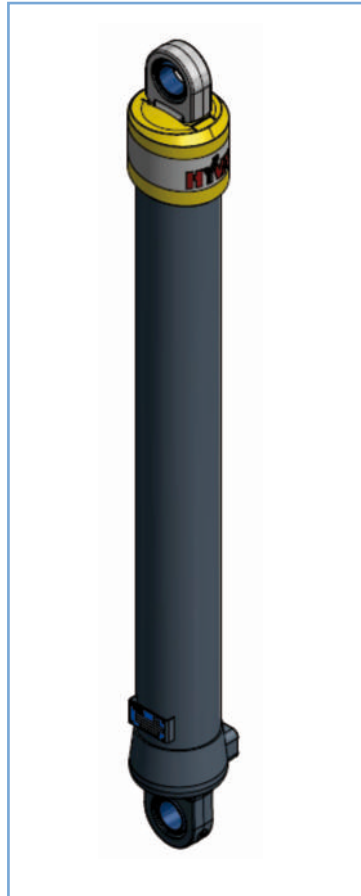
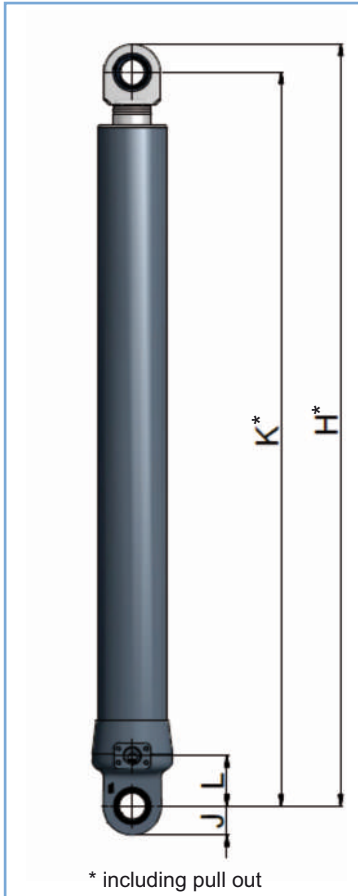
FE A191

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 47 400	FE A191-5-05405-011-K1367	250	67 - 81	253	106	4/4BSP	1420	115	1367	290
705 47 434	FE A191-6-05590-019-K1367	250	46 - 56	244	98	4/4BSP	1420	115	1367	290
705 47 474	FE A191-5-05830-019-K1532	250	66 - 78	269	114	4/4BSP	1585	115	1532	700
705 47 484	FE A191-6-06040-019-K1367	220	40 - 57	257	106	4/4BSP	1420	115	1367	290
705 47 536	FE A191-5-06230-019-K1562	220	57 - 79	282	122	4/4BSP	1615	115	1562	290
705 47 538	FE A191-6-06460-079-K1452	250	45 - 56	288	119	4/4BSP	1505	115	1452	190
705 47 540	FE A191-6-06600-019-K1532	220	40 - 56	287	120	4/4BSP	1585	115	1532	700
705 47 544	FE A191-5-06480-011-K1602	150	39 - 65	294	127	4/4BSP	1655	115	1602	290
705 47 550	FE A191-5-06830-011-K1672	190	49 - 78	306	134	4/4BSP	1725	115	1672	700
705 47 582	FE A191-6-07000-078-K1452	190	34 - 50	288	122	4/4BSP	1505	115	1452	190
705 47 602	FE A191-5-07130-011-K1732	170	43 - 61	316	139	4/4BSP	1785	115	1732	290
705 47 650	FE A191-5-07430-011-K1792	150	38 - 53	326	145	4/4BSP	1845	115	1792	700
705 47 684	FE A191-4-07620-011-K2282	150	51 - 67	376	167	4/4BSP	2335	115	2282	700
705 47 784	FE A191-6-08200-011-K1672	135	24 - 33	327	144	4/4BSP	1725	115	1672	700
705 47 836	FE A191-5-08530-019-K2282	110	27 - 36	380	167	4/4BSP	2335	115	2282	290
705 47 860	FE A191-5-09030-011-K2182	110	27 - 36	394	177	4/4BSP	2235	115	2182	290

FE A214

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 48 530	FE A214-5-06230-011-K1517	220	79 - 104	338	156	4/4BSP	1579	133	1517	700
705 48 576	FE A214-6-07000-019-K1517	190	49 - 74	344	158	4/4BSP	1570	133	1517	700
705 48 584	FE A214-5-07130-011-K1717	190	67 - 94	379	179	4/4BSP	1779	133	1717	700

Front-end cylinder with piston eye & bottom eye

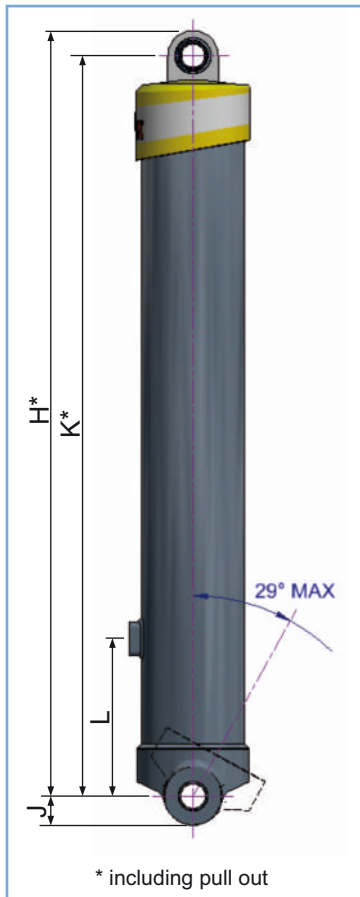


- For all cylinders a different stroke can be requested.
- All cylinders can be ordered in Hard Chromed (HC) version.
- All cylinders incl. 20 mm pull out with tolerances -5/+30mm.
- Below L-dimensions are available as standard.
 - L= 95mm

FSE A110, A129 & 149

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 74 180	FSE A129-3-03490-471-K1549	250	44 - 61	123	37	4/4BSP	1602	55	1549	95
705 74 280	FSE A129-4-04320-471-K1464	250	29 - 48	130	39	4/4BSP	1517	55	1464	95
705 75 360	FSE A149-4-04980-471-K1633	250	45 - 60	175	63	4/4BSP	1686	55	1633	95

Front-end cylinder with piston eye & bottom eye and pin



- For all cylinders a different stroke can be requested.
- All cylinders can be ordered in Hard Chromed (HC) version.
- Below L-dimensions are available as standard.
 - L= 330mm
 - L= 390mm
- All other L-dimensions are on request.
- All cylinders Incl. 20 mm pull out with tolerances of -5/+30mm.

FEE A149

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 75 254	FEE A149-4-04020-221-K1375	250	47 - 57	151	51	4/4BSP	1428	56	1375	390
705 75 306	FEE A149-4-04660-209-K1615	250	46 - 61	170	59	4/4BSP	1668	56	1615	390

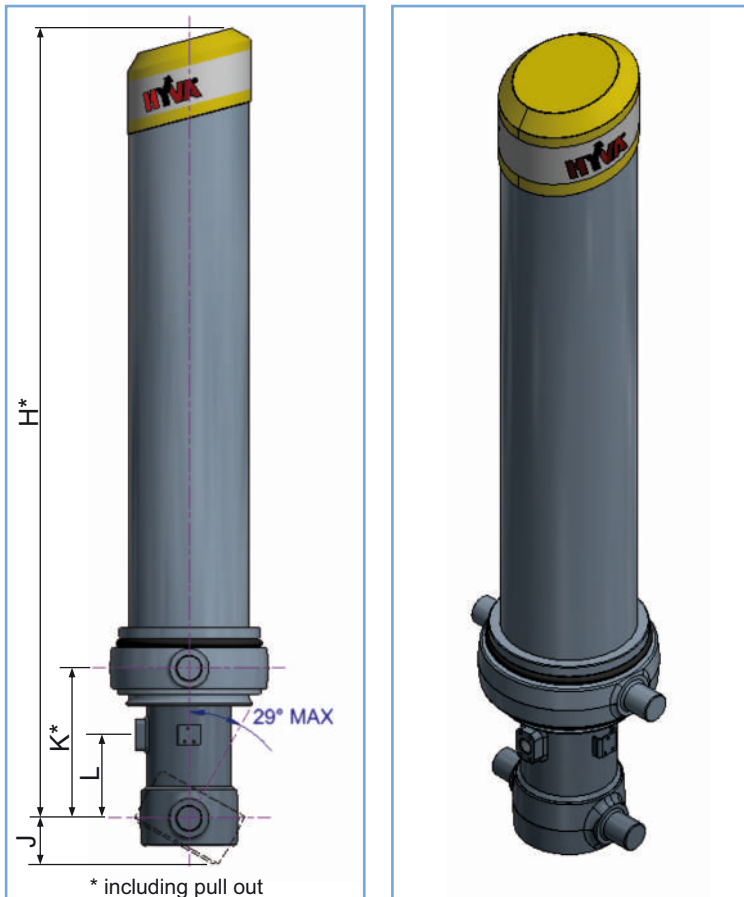
FEE A191

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 77 450	FEE A191-5-05830-221-K1552	250	66 - 78	265	114	4/4BSP	1605	56	1552	330
705 77 534	FEE A191-5-06230-201-K1632	220	57 - 78	279	122	4/4BSP	1685	56	1632	330

FEE A214

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 78 450	FEE A214-5-05830-221-K1552	220	80 - 100	315	146	4/4BSP	1614	63.5	1552	330
705 78 534	FEE A214-5-06230-211-K1632	220	79 - 102	332	156	4/4BSP	1694	63.5	1632	330
705 78 584	FEE A214-5-07130-211-K1832	190	67 - 94	373	179	4/4BSP	1894	63.5	1832	390

Heavy Duty front-end cylinders with outer cover



- For all cylinders a different stroke can be requested.
- All cylinders can be ordered in Hard Chromed (HC) version.
- Below K-dimensions are available as standard.
 - K= 343mm
 - K= 486mm
 - K= 550mm
 - K= 900mm
 - K= 1050mm
- All other K-dimensions are on request.
- Below L-dimensions are available as standard.
 - L= 190mm
 - L= 290mm
- All other L-dimensions are on request.
- All cylinders incl. 20 mm pull out with tolerances -5/+30mm.

FC A118-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
701 14 180	FC A118-3-03395-000-K0343-HD	250	34 - 58	184	29	4/4BSP	1492	88	343	190
701 14 200	FC A118-3-03635-000-K0343-HD	250	34 - 58	192	32	4/4BSP	1572	88	343	190
701 14 210	FC A118-3-03845-000-K0343-HD	250	33 - 55	198	33	4/4BSP	1642	88	343	190
701 14 250	FC A118-3-04235-000-K0343-HD	250	34 - 60	211	37	4/4BSP	1772	88	343	190

FC A129-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 14 180	FC A129-3-03395-000-K0343-HD	250	45 - 61	209	36	4/4BSP	1492	91	343	190
705 14 210	FC A129-3-03845-000-K0343-HD	250	44 - 59	226	41	4/4BSP	1642	91	343	190
705 14 250	FC A129-3-04235-000-K0343-HD	250	45 - 61	240	45	4/4BSP	1772	91	343	190

FC A137-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
701 15 180	FC A137-3-03380-000-K0343-HD	250	53 - 82	216	41	4/4BSP	1492	92	343	190
701 15 292	FC A137-4-04525-000-K0343-HD	250	36 - 54	232	47	4/4BSP	1492	92	343	190
701 15 360	FC A137-4-04845-000-K0343-HD	250	36 - 52	242	51	4/4BSP	1572	92	343	190
701 15 362	FC A137-4-04845-014-K1050-HD	250	35 - 54	221	51	4/4BSP	1569	92	1050	290
701 15 400	FC A137-4-05125-000-K0343-HD	250	35 - 52	251	54	4/4BSP	1642	92	343	190
701 15 410	FC A137-4-05125-070-K0343-HD	250	35 - 52	251	54	4/4BSP	1642	92	343	190
701 15 446	FC A137-4-05405-000-K0343-HD	250	35 - 51	260	57	4/4BSP	1712	92	343	190
701 15 450	FC A137-4-05405-070-K0343-HD	250	35 - 51	260	57	4/4BSP	1712	92	343	190

FC A149-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 15 354	FC A149-4-04365-070-K0343-HD	250	47 - 61	253	55	4/4BSP	1452	95	343	190
705 15 362	FC A149-4-04845-014-K1050-HD	250	46 - 60	244	61	4/4BSP	1569	95	1050	290
705 15 404	FC A149-4-05125-070-K0343-HD	250	46 - 60	281	65	4/4BSP	1642	95	343	190
705 15 424	FC A149-4-05405-070-K0343-HD	250	45 - 57	291	68	4/4BSP	1712	95	343	190

FC A157-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
701 16 390	FC A157-4-05105-000-K0343-HD	250	54 - 82	306	73	4/4BSP	1642	102	343	190
701 16 424	FC A157-4-05385-000-K0343-HD	250	53 - 78	317	77	4/4BSP	1712	102	343	190
701 16 440	FC A157-4-04505-000-K0343-HD	250	55 - 82	282	64	4/4BSP	1492	102	343	190
701 16 470	FC A157-5-05650-000-K0343-HD	250	36 - 50	298	71	4/4BSP	1492	102	343	190
701 16 500	FC A157-5-06050-000-K0343-HD	250	35 - 49	312	76	4/4BSP	1572	102	343	190
701 16 508	FC A157-5-06050-004-K1050-HD	250	35 - 49	279	76	4/4BSP	1569	102	1050	190
701 16 550	FC A157-5-06750-000-K0343-HD	250	34 - 46	335	85	4/4BSP	1712	102	343	190
701 16 590	FC A157-5-07050-000-K0343-HD	250	34 - 48	345	88	4/4BSP	1772	102	343	190

FC A169-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 16 280	FC A169-4-04505-000-K0343-HD	250	68 - 80	300	76	4/4BSP	1492	105	343	190
705 16 436	FC A169-4-05625-000-K0343-HD	250	65 - 82	345	95	4/4BSP	1772	105	343	190
705 16 440	FC A169-5-05650-000-K0343-HD	250	46 - 55	318	84	4/4BSP	1492	105	343	190
705 16 500	FC A169-5-06050-000-K0343-HD	250	45 - 57	332	90	4/4BSP	1572	105	343	190
705 16 580	FC A169-5-07050-000-K0343-HD	250	44 - 56	368	105	4/4BSP	1806	105	343	190
705 16 704	FC A169-5-08130-000-K0486-HD	190	33 - 46	407	121	4/4BSP	2005	105	486	190

FC A179-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
701 17 424	FC A179-4-05365-000-K0343-HD	250	76 - 98	359	101	4/4BSP	1712	108	343	190
701 17 550	FC A179-5-06725-000-K0343-HD	250	53 - 65	381	113	4/4BSP	1712	108	343	190
701 17 580	FC A179-5-07025-000-K0343-HD	250	52 - 67	393	118	4/4BSP	1772	108	343	190
701 17 586	FC A179-5-07025-014-K1300-HD	190	40 - 57	353	118	4/4BSP	1779	108	1300	290
701 17 704	FC A179-5-08130-000-K0486-HD	190	39 - 54	435	137	4/4BSP	2015	108	486	190

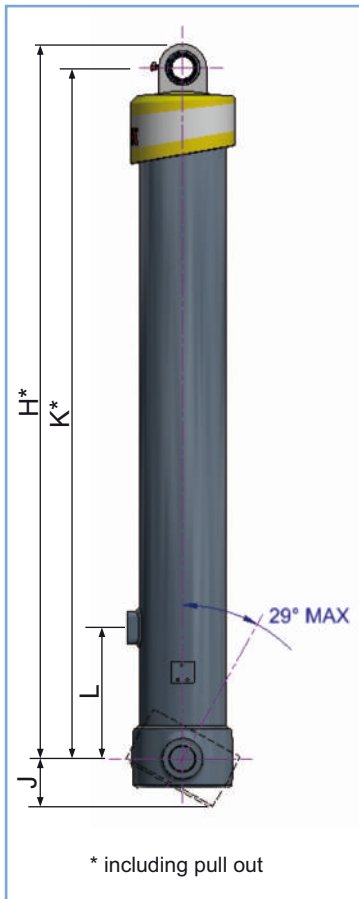
FC A191-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 17 550	FC A191-5-06725-000-K0343-HD	250	65 - 80	405	131	4/4BSP	1712	115	343	190
705 17 598	FC A191-5-07325-004-K0343-HD	250	64 - 79	430	143	4/4BSP	1832	115	343	190
705 17 708	FC A191-5-08130-004-K1050-HD	190	48 - 66	442	159	4/4BSP	2009	115	1050	190
705 17 780	FC A191-6-08090-000-K0343-HD	250	44 - 55	426	141	4/4BSP	1712	115	343	190
705 17 810	FC A191-6-08450-014-K1050-HD	170	30 - 41	413	148	4/4BSP	1769	115	1050	290

FC A214-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 18 550	FC A214-5-06695-004-K0486-HD	220	79 - 98	457	168	4/4BSP	1695	133	486	190
705 18 780	FC A214-6-08055-004-K0486-HD	220	57 - 76	483	182	4/4BSP	1695	133	486	190

Heavy Duty front-end cylinders with eye



- For all cylinders a different stroke can be requested.
- All cylinders can be ordered in Hard Chromed (HC) version.
- Below L-dimensions are available as standard.
 - L= 190mm
 - L= 290mm
 - L= 700mm
- All other L-dimensions are on request.
- All cylinders incl. 20 mm pull out with tolerances of -5/+30mm.

FE A118-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
701 34 180	FE A118-3-03395-001-K1450-HD	250	34 - 57	114	29	4/4BSP	1503	88	1450	190
701 34 210	FE A118-3-03635-001-K1530-HD	250	33 - 57	120	32	4/4BSP	1583	88	1530	190
701 34 220	FE A118-3-03845-001-K1600-HD	250	33 - 59	125	33	4/4BSP	1653	88	1600	190
701 34 224	FE A118-3-03845-071-K1600-HD	250	33 - 59	125	33	4/4BSP	1653	88	1600	190

FE A129-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 34 180	FE A129-3-03395-001-K1450-HD	250	44 - 57	130	36	4/4BSP	1503	91	1450	190
705 34 220	FE A129-3-03845-001-K1600-HD	250	43 - 59	142	41	4/4BSP	1653	91	1600	190

FE A137-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
701 35 180	FE A137-3-03380-001-K1450-HD	250	52 - 82	138	41	4/4BSP	1503	92	1450	190
701 35 220	FE A137-3-03830-001-K1600-HD	250	51 - 84	151	46	4/4BSP	1653	92	1600	190
701 35 224	FE A137-3-03830-009-K1635-HD	250	51 - 84	151	46	4/4BSP	1688	92	1635	190
701 35 292	FE A137-4-04525-001-K1450-HD	250	35 - 52	154	47	4/4BSP	1503	92	1450	190

FE A149-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 35 210	FE A149-3-03830-009-K1645-HD	250	63 - 84	168	55	4/4BSP	1698	95	1645	190
705 35 294	FE A149-4-04525-009-K1485-HD	250	46 - 61	171	57	4/4BSP	1538	95	1485	190

FE A157-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
701 36 220	FE A157-4-04165-011-K1364-HD	250	56 - 80	178	59	4/4BSP	1417	102	1364	290
701 36 270	FE A157-4-04505-011-K1449-HD	250	54 - 84	188	64	4/4BSP	1502	102	1449	290
701 36 390	FE A157-4-05105-011-K1599-HD	250	53 - 82	206	73	4/4BSP	1652	102	1599	290
701 36 406	FE A157-5-05225-011-K1364-HD	250	36 - 49	193	65	4/4BSP	1687	102	1634	290
701 36 420	FE A157-4-05385-011-K1669-HD	220	46 - 82	214	77	4/4BSP	1722	102	1669	700
701 36 476	FE A157-5-05650-011-K1449-HD	220	31 - 48	204	71	4/4BSP	1502	102	1449	700
701 36 550	FE A157-5-06750-011-K1669-HD	150	20 - 33	233	85	4/4BSP	1722	102	1669	700

FE A169-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 36 370	FE A169-4-05105-001-K1599-HD	250	66 - 84	227	86	4/4BSP	1652	105	1599	190
705 36 468	FE A169-5-05650-019-K1564-HD	220	40 - 57	226	84	4/4BSP	1617	105	1564	700
705 36 484	FE A169-5-06050-011-K1529-HD	190	34 - 53	236	90	4/4BSP	1582	105	1529	290
705 36 490	FE A169-5-06050-019-K1564-HD	190	34 - 53	237	90	4/4BSP	1617	105	1564	290
705 36 550	FE A169-5-06750-011-K1669-HD	170	30 - 49	257	100	4/4BSP	1722	105	1669	290
705 36 574	FE A169-5-06950-019-K1729-HD	170	30 - 48	265	104	4/4BSP	1782	105	1729	290
705 36 680	FE A169-5-07630-011-K1869-HD	170	29 - 40	286	114	4/4BSP	1922	105	1869	700

FE A179-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
701 37 500	FE A179-5-06025-011-K1537-HD	220	47 - 67	258	101	4/4BSP	1590	108	1537	700

FE A191-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 37 410	FE A191-5-05200-011-K1367-HD	250	67 - 83	253	101	4/4BSP	1420	115	1367	290
705 37 530	FE A191-5-06025-011-K1532-HD	250	65 - 81	282	118	4/4BSP	1585	115	1532	290
705 37 538	FE A191-5-06200-019-K1602-HD	220	57 - 78	294	123	4/4BSP	1655	115	1602	290
705 37 556	FE A191-5-06730-019-K1732-HD	190	49 - 79	316	134	4/4BSP	1785	115	1732	290
705 37 784	FE A191-6-08090-011-K1672-HD	135	24 - 33	327	141	4/4BSP	1725	115	1672	700

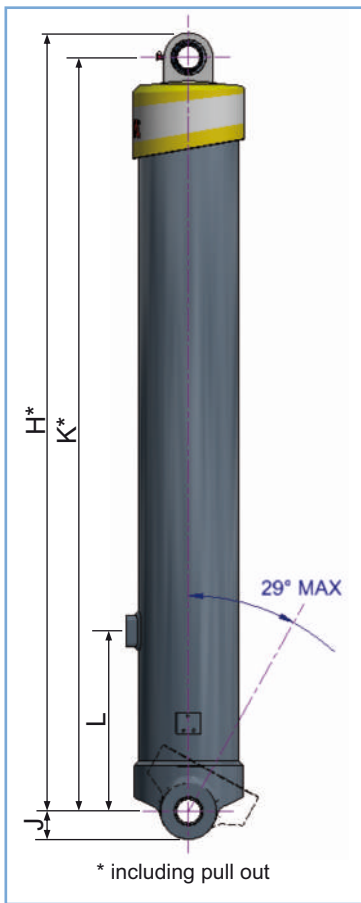
FE A214-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
705 38 450	FE A214-5-05995-011-K1517-HD	220	79 - 104	338	150	4/4BSP	1579	133	1517	290
705 38 596	FE A214-5-07030-009-K1777-HD	220	77 - 100	392	179	4/4BSP	1839	133	1777	190
705 38 684	FE A214-4-07620-011-K2267-HD	170	77 - 102	450	212	4/4BSP	2329	133	2267	700

FE A226-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H* (mm)	J (mm)	K* (mm)	L (mm)
701 39 630	FE A226-5-06970-011-K1723-HD	190	75 - 108	430	195	4/4BSP	1785	137	1723	390

Heavy Duty front-end cylinders with piston eye & bottom eye and pin



- For all cylinders a different stroke can be requested.
- All cylinders can be ordered in Hard Chromed (HC) version.
- Below L-dimensions are available as standard.
 - L= 330mm
 - L= 390mm
- All other L-dimensions are on request.
- All cylinders incl. 20 mm pull out with tolerances of -5/+30mm.

FEE A129-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H (mm)	J (mm)	K (mm)	L (mm)
705 65 210	FEE A149-4-03585-221-K1300-HD	250	46 - 61	143	45	4/4BSP	1353	56	1300	330
705 65 296	FEE A149-4-04525-219-K1615-HD	250	46 - 61	170	57	4/4BSP	1668	56	1615	390

FEE A149-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H (mm)	J (mm)	K (mm)	L (mm)
705 66 260	FEE A169-4-04165-221-K1454-HD	250	68 - 79	191	70	4/4BSP	1507	56	1454	330

FEE A191-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H (mm)	J (mm)	K (mm)	L (mm)
705 67 490	FEE A191-5-06025-211-K1632-HD	220	57 - 79	279	118	4/4BSP	1685	56	1632	390

FEE A214-HD

Part no.	Description	Press (bar)	Tipping weight (ton)	Weight (kg.)	Vol. (ltr.)	Oil inlet	H (mm)	J (mm)	K (mm)	L (mm)
705 68 584	FEE A214-5-06995-211-K1832-HD	190	67 - 96	373	175	4/4BSP	1894	63.5	1832	390

Brackets and cradles

FC/FE 110 (narrow cradle)

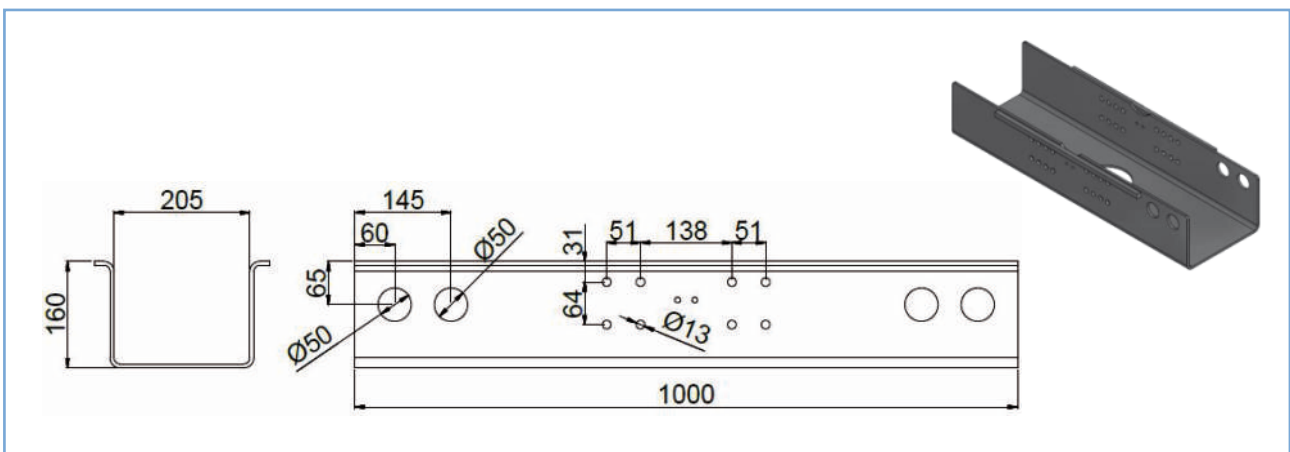
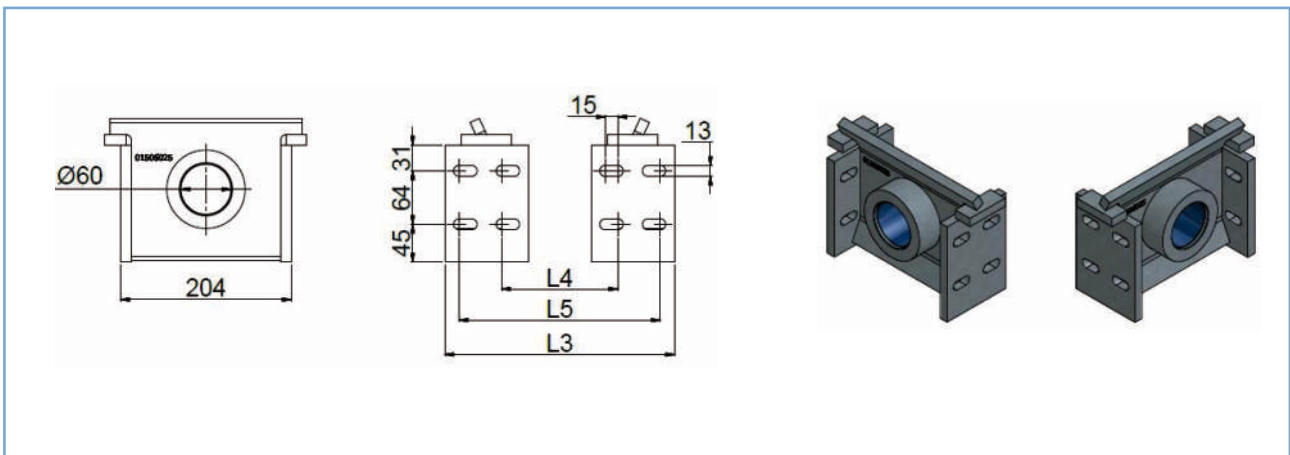
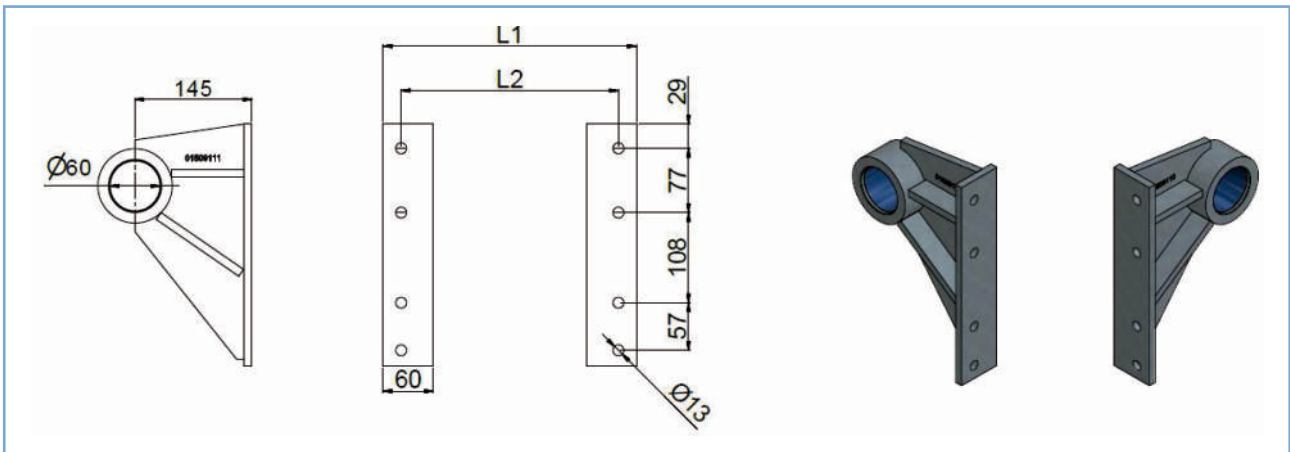
Part no.	Description	Kg
015 09 110	Lifting bracket right FC 110	4,5
015 09 111	Lifting bracket left FC 110	4,5
015 06 025	Chassis bracket FC/FE 110	6,7
015 07 512	Cylinder cradle FC/FE 110	25,2

Dimensions	L1	L2	L3	L4 *)	L5 *)
FC 110	304	261	301	138 in	240 in

*) in = inner position of slotted hole
out = outer position of slotted hole

We advise to mount the chassis and lifting brackets with the bolts to the outer side or the inner side of the slotted hole. In this way the washer and bolt, clamp on maximum surface and can absorb the largest forces.

Max. 1 mm clearance between each bracket and the cylinder.



FC/FE 110/118/129/137/149 (narrow cradle)

Part no.	Description	Kg
015 09 120	Lifting bracket right FC 110/129	6,5
015 09 121	Lifting bracket left FC 110/129	6,5
015 09 124	Lifting bracket right FC 110/118/129 (G.V)	7,9
015 09 125	Lifting bracket left FC 110/118/129 (G.V)	7,9
015 06 141	Chassis bracket FC/FE 110/118/129/137/149 (M.F)	7,5
015 06 060	Chassis bracket FC/FE 110/118/129/137/149 welded (M.F)	14,0
015 06 146	Chassis bracket FC/FE 110/118/129/137/149 (G.V)	7,7
015 07 513	Cylinder cradle FC/FE 110 wide	41,8
015 07 516	Cylinder cradle FC/FE 129/149	41,6

FC 129 can also be combined with lifting brackets 015 09 130/131

FC 149 must be combined with lifting brackets 015 09 130/131

G.V - Greased version

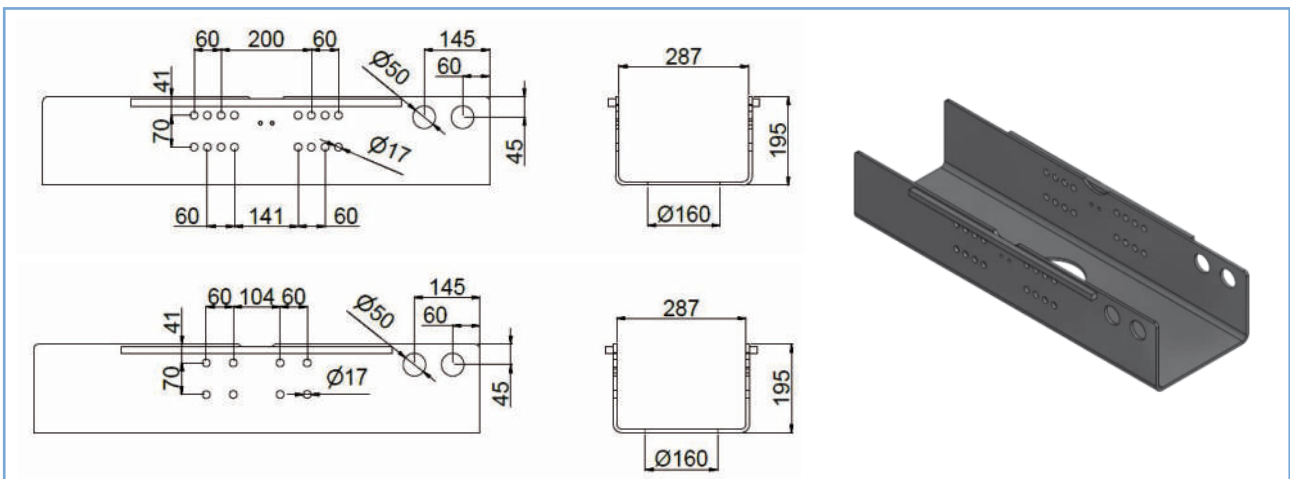
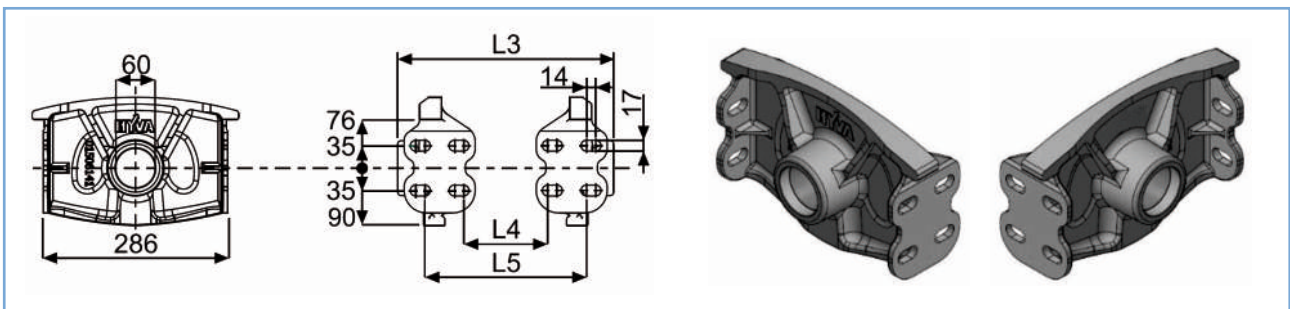
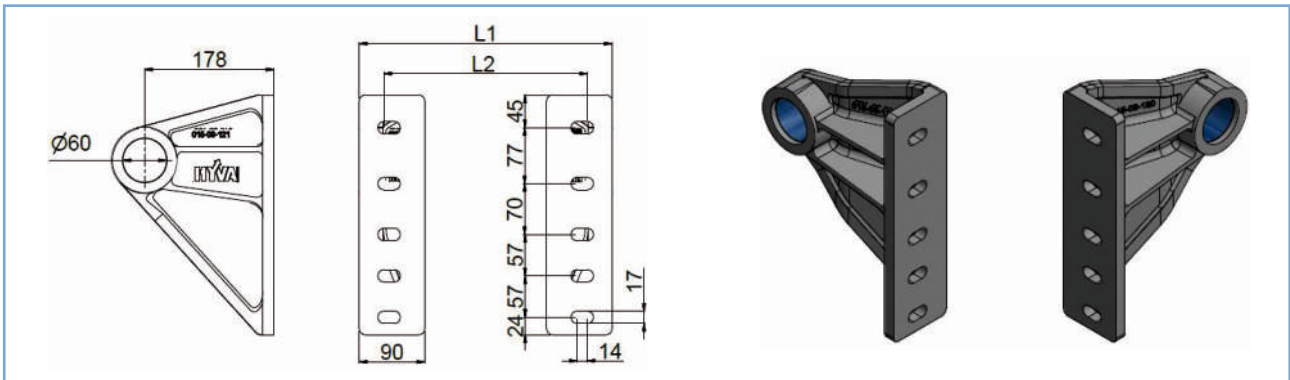
M.F - Maintenance free

Dimensions	L1	L2 *)	L3	L4 *)	L5 *)
FC 110	299	237 out	307	103 in	223 in
FC 118	444	376 out	324	120 in	240 in
FC 129	444	376 out	345	141 in	261 in
FC 137	444	376 out	345	141 in	261 in
FC 149	444	376 out	345	141 in	261 in

*) in = inner position of slotted hole
out = outer position of slotted hole

We advise to mount the chassis and lifting brackets with the bolts to the outer side or the inner side of the slotted hole. In this way the washer and bolt, clamp on maximum surface and can absorb the largest forces. Do not place the bolt in the centre of the slotted holes if tipping weight exceeds 50 tons.

Max. 1 mm clearance between each bracket and the cylinder.



FC/FE 129/137/149/157/169/179/191

Part no.	Description	Kg
015 09 130	Lifting bracket right FC 118/129/137/149/157/169/179	9,5
015 09 131	Lifting bracket left FC 129/137/149/157/169/179	9,5
015 09 136	Lifting bracket right FC 129/137/149/157/169/179 (G.V)	10,0
015 09 137	Lifting bracket left FC 129/137/149/157/169/179 (G.V)	10,0
015 06 131	Chassis bracket FC/FE 137/149/157/169/179/191 (M.F)	11,0
015 06 061	Chassis bracket FC/FE 137/149/157/169/179/191 welded (G.V)	17,0
015 06 136	Chassis bracket FC/FE 137/149/157/169/179/191 (G.V)	11,2
015 07 520	Cylinder cradle FC/FE 149/169/191	48,0

FC/FE 129 cannot be used with cradle 015 07 520

G.V - Greased version

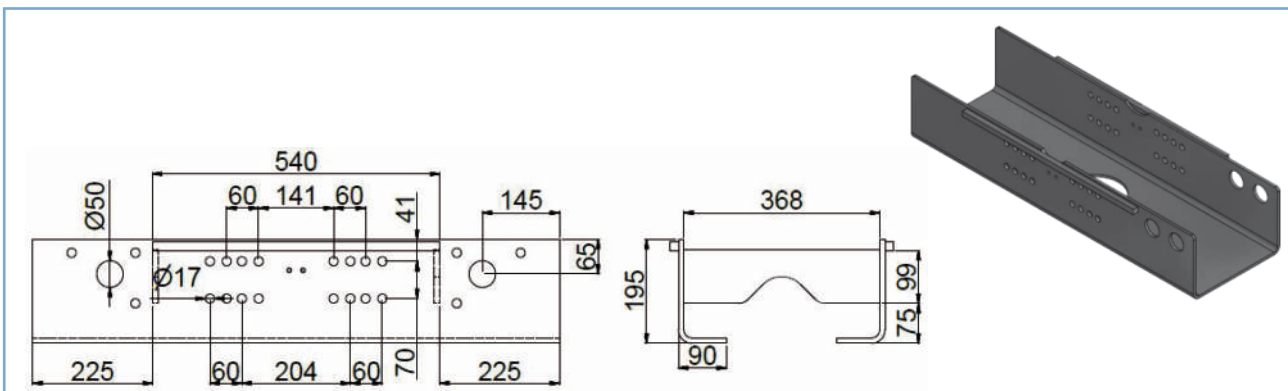
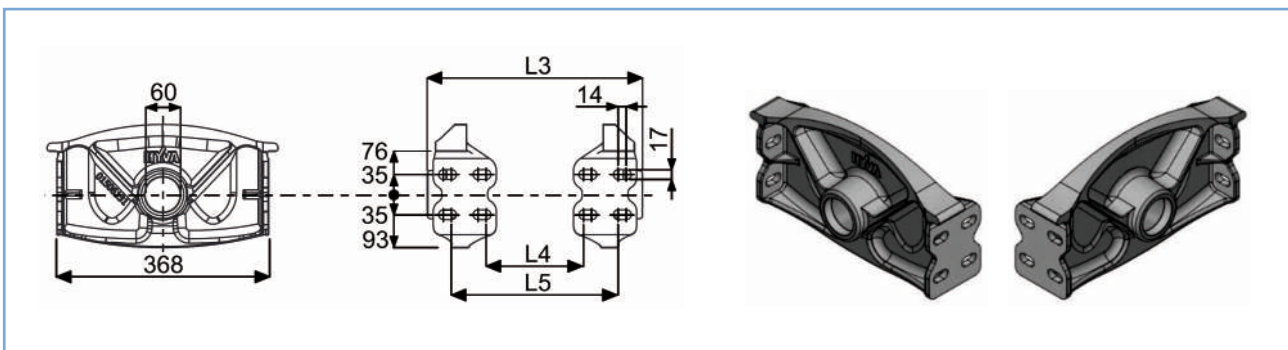
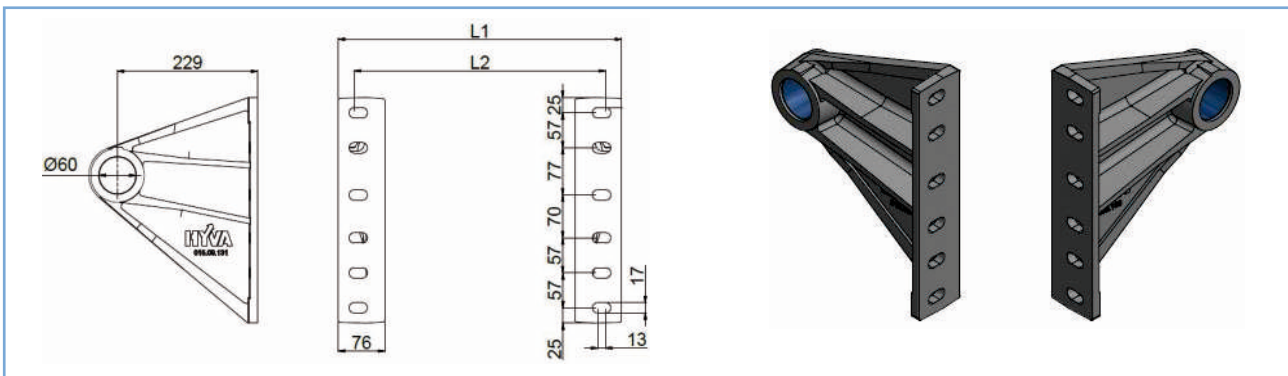
M.F - Maintenance free

Dimensions	L1	L2 *)	L3	L4 *)	L5 *)
FC 129	462	410 out	345	141 in	261 in
FC 137	463	411 out	346	141 in	261 in
FC 149	464	412 out	345	141 in	261 in
FC 157	465	413 out	387	211 in	331 out
FC 169	466	414 out	388	211 out	331 out
FC 179	467	415 out	389	211 out	331 out
FC 191	490	410 in	387	211 out	331 out

*) in = inner position of slotted hole
out = outer position of slotted hole

We advise to mount the chassis and lifting brackets with the bolts to the outer side or the inner side of the slotted hole. In this way the washer and bolt, clamp on maximum surface and can absorb the largest forces. Do not place the bolt in the centre of the slotted holes if tipping weight exceeds 50 tons.

Max. 1 mm clearance between each bracket and the cylinder.



FC/FE 202/214/226

Part no.	Description	Kg
015 06 726	Lifting bracket left FC 191/202/214 (M.F)	10,0
015 06 728	Lifting bracket right FC 191/202/214 (M.F)	10,0
015 06 723	Lifting bracket left FC 191/202/214 (G.V)	13,7
015 06 722	Lifting bracket right FC 191/202/214 (G.V)	13,7
015 06 132	Chassis bracket FC/FE 202/214 (M.F)	10,8
015 06 053	Chassis bracket FC/FE 202/214 welded (G.V)	17,0
015 06 058	Chassis bracket FC/FE 202/214 welded cradle 425 (G.V)	26,0
015 06 064	Chassis bracket FC/FE 226 welded cradle 425 (G.V)	30,0
015 06 133	Chassis bracket FC/FE 202/214 (G.V)	11,0

FC/FE 214/226 cylinders cannot be combined with a cradle

G.V - Greased version

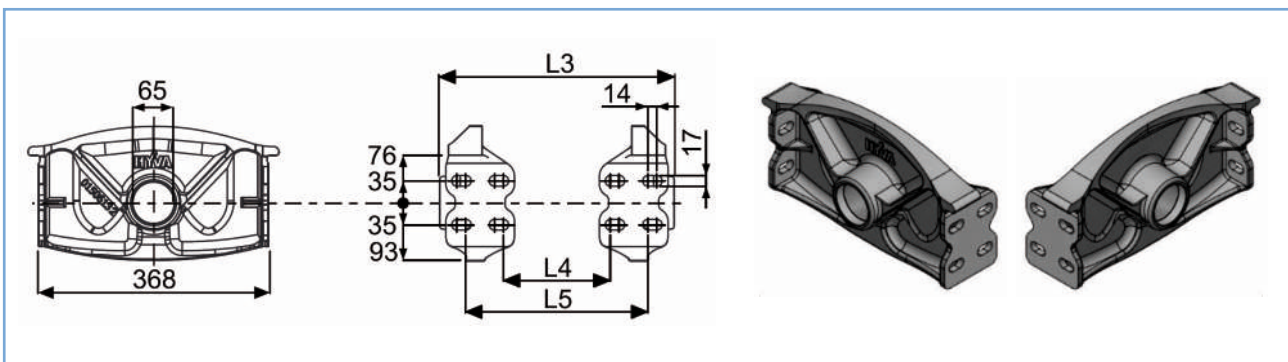
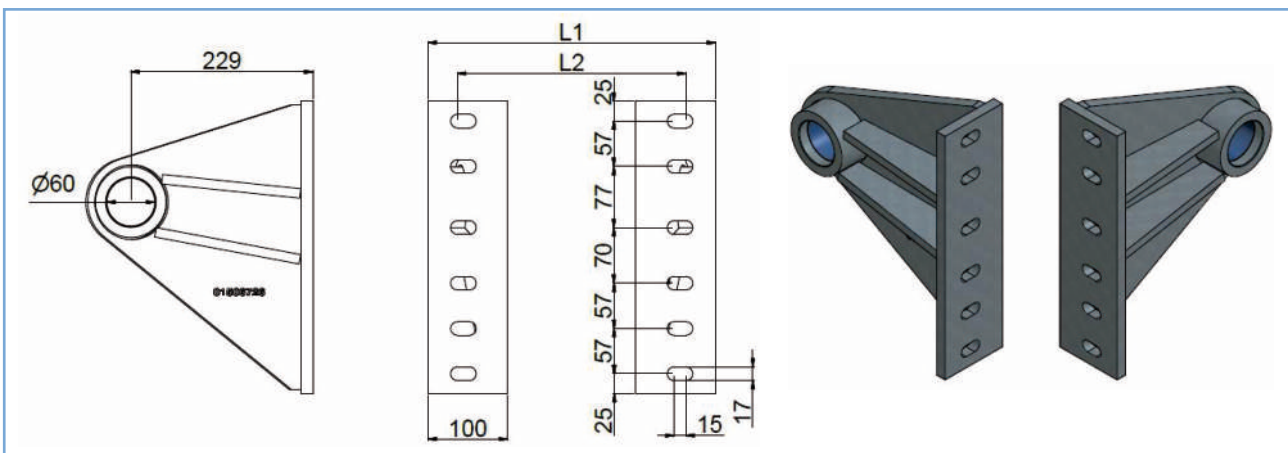
M.F - Maintenance free

Dimensions	L1	L2 *)	L3	L4 *)	L5 *)
FC 202/214	510	410 in	412	211 in	331 in

*) in = inner position of slotted hole
out = outer position of slotted hole

We advise to mount the chassis and lifting brackets with the bolts to the outer side or the inner side of the slotted hole. In this way the washer and bolt, clamp on maximum surface and can absorb the largest forces. Do not place the bolt in the centre of the slotted holes if tipping weight exceeds 50 tons.

Max. 1 mm clearance between each bracket and the cylinder.



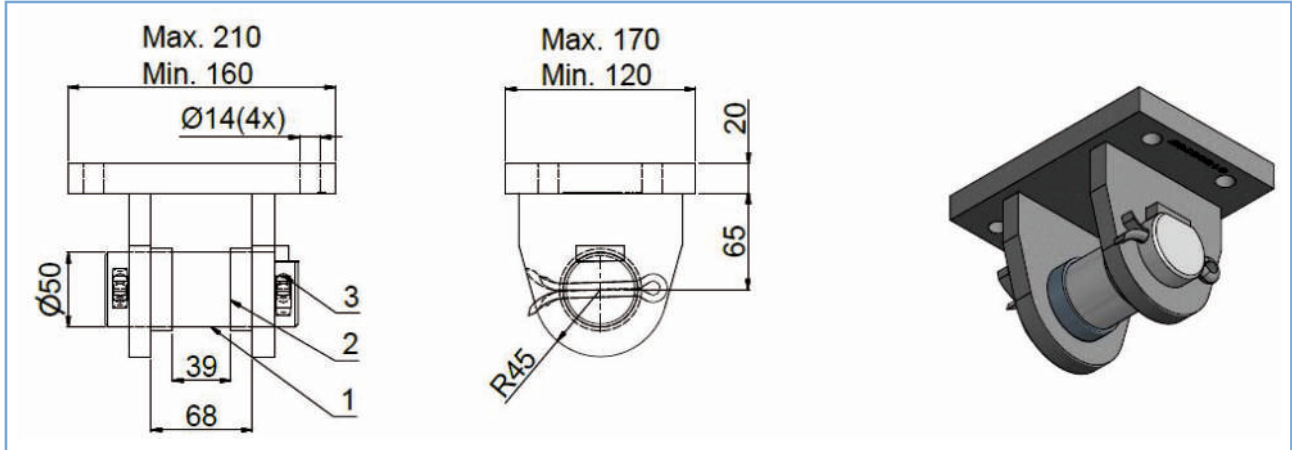
Top brackets & bolt sets

Top bracket (complete)

Part no.	Description	Weight (kg)
015 06 787	Top bracket FE/FEE/FSE 110/118/129- pin 50	7,6
015 06 785	Top bracket FE/FEE/FSE 137/149/157/169/179-5/191-5- pin 50	8,2
015 06 789	Top bracket FE/FEE/FSE 179-4/191-4/202/214- pin 60	10,1

Spare parts for top bracket

Part no.	Description	Position
017 70 255	Pin Clevis type VII	1
017 92 555	Filler ring (2 pieces)	2
017 70 275	Split Pin Clevis top (2 pieces)	3



Bracket mounting bolt set

Part no.	Description	Qty. of bolts
Q 006	Lifting bracket bolt set M16x60	12
Q 007	Lifting bracket bolt set M16x70	12
Q 005	Chassis bracket bolt set M16x50	16



Top nut and washer

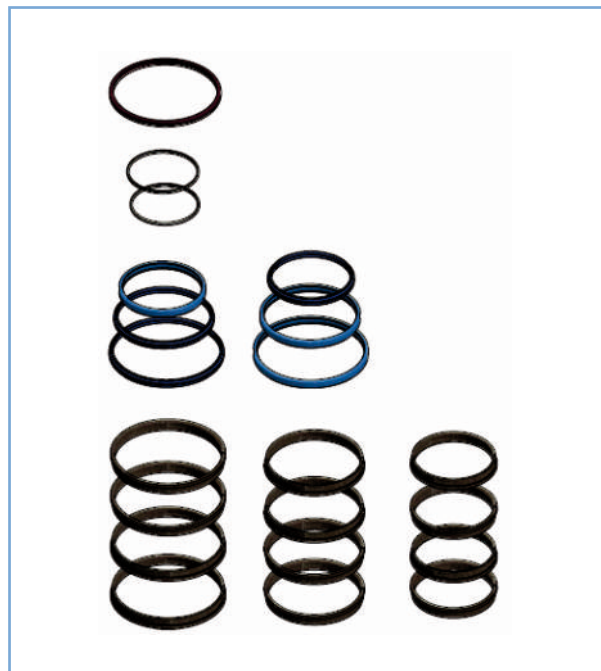
Part no.	Description	key width
017 02 890 K	Top nut and washer - FC - M48	75



Seal sets for FC / FE / FEE / FSE

Seal sets for FC, FE & FSE cylinders

Part no.	Description
719 08 310K	Seal kit complete A110-1
719 08 321K	Seal kit complete A110-2-HD
719 08 330K	Seal kit complete A110-3
719 08 331K	Seal kit complete A110-3-HD
719 08 335K	Seal kit complete A110-3-FSE
719 07 410K	Seal kit complete A118-1
719 07 420K	Seal kit complete A118-2
719 07 430K	Seal kit complete A118-3
719 07 431K	Seal kit complete A118-3-HD
719 07 435K	Seal kit complete A118-3-FSE
719 08 425K	Seal kit complete A129-2-FSE
719 08 430K	Seal kit complete A129-3
719 08 431K	Seal kit complete A129-3-HD
719 08 435K	Seal kit complete A129-3-FSE
719 08 440K	Seal kit complete A129-4
719 08 445K	Seal kit complete A129-4-FSE
719 07 530K	Seal kit complete A137-3
719 07 531K	Seal kit complete A137-3-HD
719 07 540K	Seal kit complete A137-4
719 07 541K	Seal kit complete A137-4-HD
719 07 545K	Seal kit complete A137-4-FSE
719 07 546K	Seal kit complete A137-4-HD-FSE
719 08 520K	Seal kit complete A149-2
719 08 530K	Seal kit complete A149-3
719 08 531K	Seal kit complete A149-3-HD
719 08 535K	Seal kit complete A149-3-FSE
719 08 540K	Seal kit complete A149-4
719 08 541K	Seal kit complete A149-4-HD
719 08 545K	Seal kit complete A149-4-FSE
719 08 546K	Seal kit complete A149-4-HD-FSE
719 08 550K	Seal kit complete A149-5
719 07 630K	Seal kit complete A157-3
719 07 631K	Seal kit complete A157-3-HD
719 07 640K	Seal kit complete A157-4
719 07 641K	Seal kit complete A157-4-HD
719 07 645K	Seal kit complete A157-4-FSE
719 07 650K	Seal kit complete A157-5
719 07 651K	Seal kit complete A157-5-HD
719 08 640K	Seal kit complete A169-4
719 08 641K	Seal kit complete A169-4-HD
719 08 645K	Seal kit complete A169-4-FSE
719 08 650K	Seal kit complete A169-5
719 08 651K	Seal kit complete A169-5-HD
719 08 660K	Seal kit complete A169-6
719 07 731K	Seal kit complete A179-3-HD
719 07 740K	Seal kit complete A179-4
719 07 741K	Seal kit complete A179-4-HD
719 07 750K	Seal kit complete A179-5
719 07 751K	Seal kit complete A179-5-HD
719 07 760K	Seal kit complete A179-6
719 08 740K	Seal kit complete A191-4
719 08 741K	Seal kit complete A191-4-HD
719 08 750K	Seal kit complete A191-5
719 08 751K	Seal kit complete A191-5-HD
719 08 760K	Seal kit complete A191-6
719 08 761K	Seal kit complete A191-6-HD
719 07 841K	Seal kit complete A202-4-HD
719 07 851K	Seal kit complete A202-5-HD
719 08 841K	Seal kit complete A214-4-HD
719 08 850K	Seal kit complete A214-5
719 08 851K	Seal kit complete A214-5-HD
719 08 860K	Seal kit complete A214-6
719 08 861K	Seal kit complete A214-6-HD
719 07 951K	Seal kit complete A226-5-HD



Caps for FC / FE / FEE / FSE

Cylinder caps FC

Part no.	Description
718 39 000	Cylinder cap FC cover 168
718 39 010	Cylinder cap FC cover 195
718 39 020	Cylinder cap FC cover 219
718 39 030	Cylinder cap FC cover 241
718 39 040	Cylinder cap FC cover 244
718 39 050	Cylinder cap FC cover 273



Cylinder caps FE/FEE/FSE

Part no.	Description
718 39 100	Cylinder cap FE/FEE/FSE 110-3/118-3
718 39 110	Cylinder cap FE/FEE/FSE 129-3/137-3
718 39 111	Cylinder cap FE/FEE/FSE 129-4/137-4
718 39 120	Cylinder cap FE/FEE/FSE 149-3
718 39 121	Cylinder cap FE/FEE/FSE 149-4 /157-4
718 39 123	Cylinder cap FE/FEE/FSE 157-3
718 39 122	Cylinder cap FE/FEE/FSE 157-5
718 39 130	Cylinder cap FE/FEE/FSE 169-4/1961-5
718 39 131	Cylinder cap FE/FEE/FSE 169-5/179-5/191-6
718 39 132	Cylinder cap FE/FEE/FSE 169-6
718 39 134	Cylinder cap FE/FEE/FSE 179-3
718 39 133	Cylinder cap FE/FEE/FSE 179-4/191-4
718 39 149	Cylinder cap FE/FEE/FSE 202-4/214-4
718 39 150	Cylinder cap FE/FEE/FSE 202-5/214-5
718 39 151	Cylinder cap FE/FEE/FSE 214-6
718 39 160	Cylinder cap FE/FEE/FSE 226-5



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