# single acting front-end cylinder

# binotto.com



## MFC\_B3 CYLINDER TYPE

inotto

Binotto B



SINGLE ACTING FRONT-END CYLINDER / MFC\_B3

CATALOGUE



**B3** is an exclusive **TECHNOLOGY** of Binotto which sets a new benchmark in tipping hoist performance

A clever and unique design provides a momentary cushion effect at the end of the stroke of each stage.

- Less noise, friction and vibration
- Longer seal and wiper lifespan
- Greater hoist protection and durability
- Enhanced safety, even at high speed
- Greater vehicle efficiency



For more information www.b3cylinder.com

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#### IMPORTANT

The user, through its own analysis and testing, is solely responsible for making the final selection of the cylinders and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met and that the use presents no health or safety hazards.

Before installation, maintenance, service and use of Binotto cylinders, make sure you have read carefully and understood all documents which are sent together with the products (User Manual and Mounting Instructions).

A digital version of the documents is available in our official website www.binotto.com.

In case of service or spare part request, please contact your trusted Binotto sales&service point. A global and update overview of main Binotto official sales&service points is available online **network.binotto.com**.

Even if you are at a considerable distance from the listed points, you should still contact your nearest one or contact your supplier of hydraulic equipment. Most distributors maintain their own network and can advise you of the most convenient for your work.



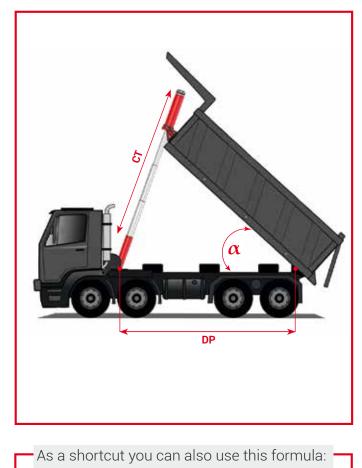


STROKE SELECTION TABLE

## GUIDELINES FOR CYLINDER STROKE SELECTION

Select the hinge distance of your tipping vehicle (**DP**) and choose your target tipping angle ( $\alpha$ ). You will find the suitable stroke of the cylinder.

<b>DP</b> [mm]	CT at 45° [mm]	CT at 50° [mm]	CT at 55° [mm]
4000	3060	3380	3700
4200	3215	3550	3885
4400	3370	3720	4070
4600	3520	3890	4255
4800	3675	4060	4440
5000	3825	4225	4625
5200	3980	4395	4810
5400	4135	4565	4995
5600	4285	4735	5180
5800	4435	4900	5365
6000	4590	5070	5550
6200	4745	5240	5735
6400	4900	5410	5920
6600	5050	5580	6105
6800	5205	5750	6290
7000	5360	5915	6475
7200	5510	6085	6660
7400	5660	6255	6845
7600	5815	6425	7030
7800	5970	6590	7215
8000	6120	6760	7400
8200	6275	6930	7585
8400	6430	7100	7770
8600	6580	7270	7955
8800	6735	7440	8140
9000	6885	7605	8325



 $CT = \frac{DP x \alpha}{59}$ 

For detailed tipping calculations please refer to: https://spinta.binotto.com

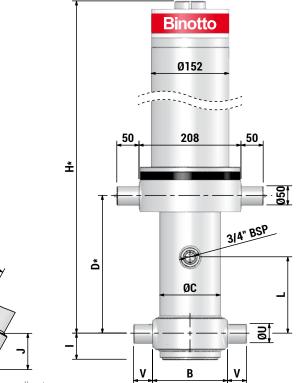


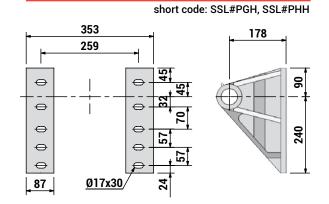


MFC B3 (107 SERIES)

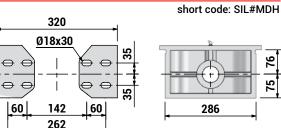
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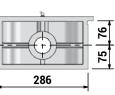
Upper brackets dimensions and chassis drilling template





Lower brackets dimensions and chassis drilling template





\*Including 20 mm pull-out.

29

MAX

DESCRIPTION	STAGES	STROKE [mm]	B [mm]	ØC [mm]	D∗ [mm]	H∗ [mm]	l [mm]	J [mm]	L [mm]	Ø U [mm]	V [mm]	VOL [L]	WEIGHT [kg]
MFC_B3 107/3/2855	3	2855	170	130	311	1268	55	79	190	50	60	17,9	138
MFC_B3 107/3/3115	3	3115	170	130	311	1368	55	79	190	50	60	19,5	147
MFC_B3 107/3/3265	3	3265	170	130	311	1418	55	79	190	50	60	20,5	152
MFC_B3 107/3/3415	3	3415	170	130	311	1468	55	79	190	50	60	21,4	157
MFC_B3 107/3/3715	3	3715	170	130	311	1568	55	79	190	50	60	23,3	167

The application of a telescopic cylinder is to lift up tipping bodies, loaded with different materials, in order to discharge this material during its extension. This cylinder is designed as a lifting device only for loads along the longitudinal axis. • It must not be used as a structural member or be subject to side load. • Hydraulic oil temperature allowable range between -40°C and +80°C. Chromed thickness: minimum 20 µm + For standard version, max. duration of extension is 2 hrs. Cylinder is painted gray (RAL 7021) with a thickness conforming to the 480 hours neutral salt spray test as per ISO 9227 (ISO 10289, rating 9). The max tipping weight that can be raised by the cylinder is the body weight plus the max payload. This value, calculated at the max pressure, is a rough indication of the tipping power of the cylinder and must be used as a first criteria for the selection of the cylinder. • The real tipping mass can only be calculated by the design engineer of the dump truck, and must take into account the geometry of the dump body and operating conditions. • Never exceed maximum cylinder load. • Never exceed maximum pressure. • Maximum working pressure 200 bar. • For Pump flow selection, contact the Binotto Technical Department. • Weights shown do not include brackets. • Keep always 2,5 mm clearance between lower brackets and cylinder and 1 mm clearance between upper brackets and cylinder to avoid friction. • Shorter outer covers are also available: if different D dimension is required, please contact Binotto Technical Department. The cylinder must always be sold together with Quick Instructions (QI) and User Manual (MU). **COMPANY WITH** Make sure they are included and check them carefully before installation, usage, service or repair.

### www.binotto.com



#### QUALITY SYSTEM **CERTIFIED BY DNV GL** = ISO 9001 =

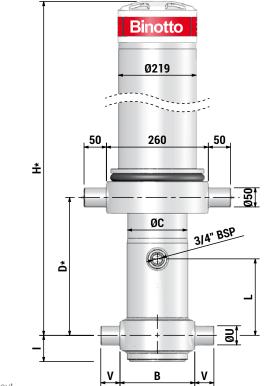


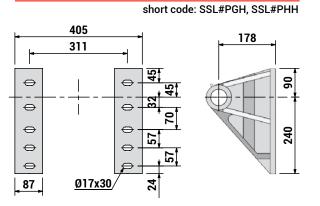


#### MFC\_B3 (126 SERIES

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Upper brackets dimensions and chassis drilling template





Lower brackets dimensions and chassis drilling template

35

60

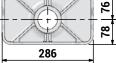
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60

162

282



\*Including 20 mm pull-out.

29.

MAX

DESCRIPTION	STAGES	STROKE [mm]	B [mm]	ØC [mm]	D* [mm]	H* [mm]	l [mm]	J [mm]	L [mm]	Ø U [mm]	V [mm]	VOL [L]	WEIGHT [kg]
MFC_B3 126/3/3230	3	3230	190	145	343	1403	72	99	250	60	60	29,6	182
MFC_B3 126/3/3680	3	3680	190	145	343	1553	72	99	250	60	60	33,8	195
MFC_B3 126/3/3830	3	3830	190	145	343	1603	72	99	250	60	60	35,1	201
MFC_B3 126/3/4400	3	4400	190	145	343	1803	72	99	250	60	60	40,4	229
MFC_B3 126/4/4145	4	4145	190	145	343	1357	72	99	250	60	60	32,4	192
MFC_B3 126/4/4345	4	4345	190	145	343	1407	72	99	250	60	60	34,0	199
MFC_B3 126/4/4545	4	4545	190	145	343	1457	72	99	250	60	60	35,5	206
MFC_B3 126/4/4745	4	4745	190	145	343	1507	72	99	250	60	60	37,1	212
MFC_B3 126/4/4945	4	4945	190	145	343	1557	72	99	250	60	60	38,6	219
MFC_B3 126/4/5145	4	5145	190	145	343	1607	72	99	250	60	60	40,2	225

The application of a telescopic cylinder is to lift up tipping bodies, loaded with different materials, in order to discharge this material during its extension. This cylinder is designed as a lifting device only for loads along the longitudinal axis. • It must not be used as a structural member or be subject to side load. • Hydraulic oil temperature allowable range between -40°C and +80°C. Chromed thickness: minimum 20 µm + For standard version, max. duration of extension is 2 hrs. Cylinder is painted gray (RAL 7021) with a thickness conforming to the 480 hours neutral salt spray test as per ISO 9227 (ISO 10289, rating 9). The max tipping weight that can be raised by the cylinder is the body weight plus the max payload. This value, calculated at the max pressure, is a rough indication of the tipping power of the cylinder and must be used as a first criteria for the selection of the cylinder. • The real tipping mass can only be calculated by the design engineer of the dump truck, and must take into account the geometry of the dump body and operating conditions. • Never exceed maximum cylinder load. • Never exceed maximum pressure. • Maximum working pressure 200 bar. • For Pump flow selection, contact the Binotto Technical Department. • Weights shown do not include brackets. • Keep always 2,5 mm clearance between lower brackets and cylinder and 1 mm clearance between upper brackets and cylinder to avoid friction. • Shorter outer covers are also available: if different D dimension is required, please contact Binotto Technical Department. The cylinder must always be sold together with Quick Instructions (QI) and User Manual (MU). **COMPANY WITH** Make sure they are included and check them carefully before installation, usage, service or repair.





QUALITY SYSTEM **CERTIFIED BY DNV GL** = ISO 9001 =

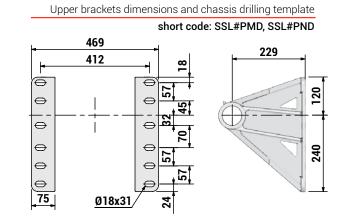
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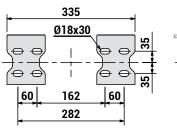


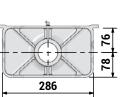
#### MFC\_B3 (145 SERIES)

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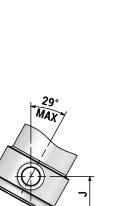


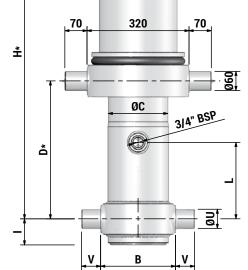
Lower brackets dimensions and chassis drilling template





short code: SIL#MHD





(CT)

Binotto

Ø219

\*Including 20 mm pull-out.

DESCRIPTION	STAGES	STROKE [mm]	B [mm]	ØC [mm]	D* [mm]	H* [mm]	l [mm]	J [mm]	L [mm]	Ø U [mm]	V [mm]	VOL [L]	WEIGHT [kg]
MFC_B3 145/3/3230	3	3230	193	165	343	1403	72	102	250	60	60	40,9	216
MFC_B3 145/3/3680	3	3680	193	165	343	1553	72	102	250	60	60	46,6	236
MFC_B3 145/3/3830	3	3830	193	165	343	1603	72	102	250	60	60	48,5	243
MFC_B3 145/4/4110	4	4110	193	165	343	1357	72	102	250	60	60	45,2	219
MFC_B3 145/4/4310	4	4310	193	165	343	1407	72	102	250	60	60	47,4	226
MFC_B3 145/4/4510	4	4510	193	165	343	1457	72	102	250	60	60	49,6	233
MFC_B3 145/4/4710	4	4710	193	165	343	1507	72	102	250	60	60	51,8	241
MFC_B3 145/4/4910	4	4910	193	165	343	1557	72	102	250	60	60	54,1	248
MFC_B3 145/4/5110	4	5110	193	165	343	1607	72	102	250	60	60	56,3	255
MFC_B3 145/4/5310	4	5310	193	165	343	1657	72	102	250	60	60	58,5	262
MFC_B3 145/4/5865	4	5865	193	165	343	1807	72	102	250	60	60	64,6	290
MFC_B3 145/5/4310	5	4310	193	165	343	1161	72	102	250	60	60	41,3	204

The application of a telescopic cylinder is to lift up tipping bodies, loaded with different materials, in order to discharge this material during its extension. This cylinder is designed as a lifting device only for loads along the longitudinal axis. It must not be used as a structural member or be subject to side load. Hydraulic oil temperature allowable range between -40°C and +80°C. Chromed thickness: minimum 20 µm. For standard version, max. duration of extension is 2 hrs. Cylinder is painted gray (RAL 7021) with a thickness conforming to the 480 hours neutral salt spray test as per ISO 9227 (ISO 10289, rating 9). The max tipping weight that can be raised by the cylinder is the body weight plus the max payload. This value, calculated at the max pressure, is a rough indication of the cylinder and must be used as a first criteria for the selection of the cylinder. The real tipping mass can only be calculated by the design engineer of the dump truck, and must take into account the geometry of the dump body and operating conditions. Never exceed maximum cylinder load. Never exceed maximum pressure. Maximum working pressure 200 bar. For Pump flow selection, contact the Binotto Technical Department. Weights shown do not include brackets. Keep always 1 mm clearance between brackets and cylinder to avoid friction. Shorter outer covers are also available: if different D dimension is required, please contact Binotto Technical Department.

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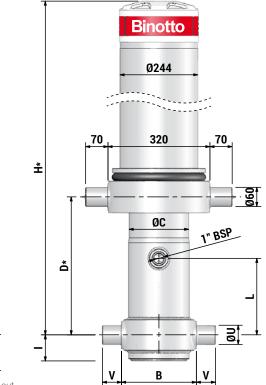


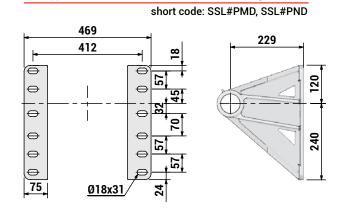


#### MFC\_B3 (165 SERIES)

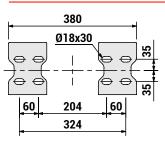
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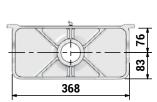
Upper brackets dimensions and chassis drilling template





Lower brackets dimensions and chassis drilling template





short code: SIL#MID

\*Including 20 mm pull-out.

29.

MAX

DESCRIPTION	STAGES	STROKE [mm]	B [mm]	ØC [mm]	D* [mm]	H∗ [mm]	l [mm]	J [mm]	L [mm]	Ø U [mm]	V [mm]	VOL [L]	WEIGHT [kg]
MFC_B3 165/4/4110	4	4110	235	187	343	1347	82	116	250	60	60	61,0	269
MFC_B3 165/4/4510	4	4510	235	187	343	1447	82	116	250	60	60	66,9	287
MFC_B3 165/4/4710	4	4710	235	187	343	1497	82	116	250	60	60	69,9	295
MFC_B3 165/4/4910	4	4910	235	187	343	1547	82	116	250	60	60	72,8	304
MFC_B3 165/4/5110	4	5110	235	187	343	1597	82	116	250	60	60	75,8	313
MFC_B3 165/4/5310	4	5310	235	187	343	1647	82	116	250	60	60	78,8	322
MFC_B3 165/4/5865	4	5865	235	187	343	1797	82	116	250	60	60	87,0	349
MFC_B3 165/5/5135	5	5135	235	187	343	1351	82	116	250	60	60	67,2	272
MFC_B3 165/5/5385	5	5385	235	187	343	1401	82	116	250	60	60	70,5	280
MFC_B3 165/5/5635	5	5635	235	187	343	1451	82	116	250	60	60	73,7	288
MFC_B3 165/5/6135	5	6135	235	187	343	1551	82	116	250	60	60	80,3	306
MFC_B3 165/5/6385	5	6385	235	187	343	1601	82	116	250	60	60	83,5	315
MFC_B3 165/5/6825	5	6825	235	187	343	1701	82	116	250	60	60	89,3	333
MFC_B3 165/5/7075	5	7075	235	187	343	1751	82	116	250	60	60	92,6	341
MFC_B3 165/5/7325	5	7325	235	187	343	1801	82	116	250	60	60	95,8	350
MFC_B3 165/5/7575	5	7575	235	187	343	1851	82	116	250	60	60	99,1	361
MFC_B3 165/5/7825	5	7825	235	187	343	1901	82	116	250	60	60	102,4	370
MFC_B3 165/5/8185	5	8185	235	187	343	2001	82	116	250	60	60	107,1	390
MFC_B3 165/5/8435	5	8435	235	187	343	2051	82	116	250	60	60	110,4	402

The application of a telescopic cylinder is to lift up tipping bodies, loaded with different materials, in order to discharge this material during its extension. This cylinder is designed as a lifting device only for loads along the longitudinal axis. It must not be used as a structural member or be subject to side load. Hydraulic oil temperature allowable range between -40°C and +80°C. Chromed thickness: minimum 20 µm. For standard version, max. duration of extension is 2 hrs. Cylinder is painted gray (RAL 7021) with a thickness conforming to the 480 hours neutral salt spray test as per ISO 9227 (ISO 10289, rating 9). The max tipping weight that can be raised by the cylinder is the body weight plus the max payload. This value, calculated at the max pressure, is a rough indication of the tipping power of the cylinder and must be used as a first criteria for the selection of the cylinder. The real tipping mass can only be calculated by the design engineer of the dump truck, and must take into account the geometry of the dump body and operating conditions. Never exceed maximum cylinder load. Never exceed maximum pressure. Maximum working pressure 200 bar. For Pump flow selection, contact the Binotto Technical Department. Weights shown do not include brackets. Keep always 1 mm clearance between lower brackets and cylinder to avoid friction. Shorter outer covers are also available: if different D dimension is required, please contact Binotto Technical Department. The cylinder must always be sold together with Quick Instructions (QI) and User Manual (MU). Make sure they are included and check them carefully before installation, usage, service or repair.

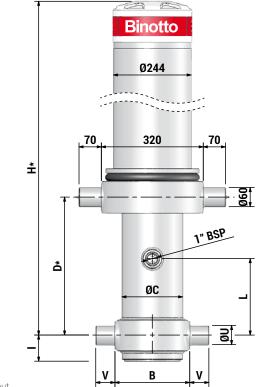
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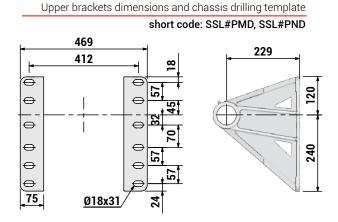




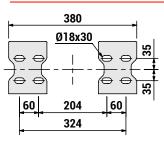
#### MFC\_B3 (187 SERIES)

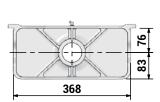
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Lower brackets dimensions and chassis drilling template





short code: SIL#MID

\*Including 20 mm pull-out.

29.

MAX

DESCRIPTION	STAGES	STROKE [mm]	B [mm]	ØC [mm]	D* [mm]	H* [mm]	l [mm]	J [mm]	L [mm]	Ø U [mm]	V [mm]	VOL [L]	WEIGHT [kg]
MFC_B3 187/5/5135	5	5135	235	216	343	1351	82	123	250	60	60	89,1	346
MFC_B3 187/5/5385	5	5385	235	216	343	1401	82	123	250	60	60	93,5	357
MFC_B3 187/5/5635	5	5635	235	216	343	1451	82	123	250	60	60	97,8	368
MFC_B3 187/5/6135	5	6135	235	216	343	1551	82	123	250	60	60	106,5	391
MFC_B3 187/5/6385	5	6385	235	216	343	1601	82	123	250	60	60	110,8	402
MFC_B3 187/5/6825	5	6825	235	216	343	1701	82	123	250	60	60	118,5	424
MFC_B3 187/5/7075	5	7075	235	216	343	1751	82	123	250	60	60	122,8	435
MFC_B3 187/5/7325	5	7325	235	216	343	1801	82	123	250	60	60	127,2	447
MFC_B3 187/5/7825	5	7825	235	216	343	1901	82	123	250	60	60	135,8	469
MFC_B3 187/5/8185	5	8185	235	216	343	2001	82	123	250	60	60	142,1	487
MFC_B3 187/5/8435	5	8435	235	216	343	2051	82	123	250	60	60	146,4	503
MFC_B3 187/5/8935	5	8935	235	216	343	2151	82	123	250	60	60	155,1	510
MFC_B3 187/5/9185	5	9185	235	216	343	2201	82	123	250	60	60	159,5	548
MFC_B3 187/6/8790	6	8790	235	216	843	1805	82	123	250	60	60	136,1	440
MFC_B3 187/6/9085	6	9085	235	216	343	1855	82	123	250	60	60	140,6	450
MFC_B3 187/7/8625	7	8625	235	216	343	1559	82	123	250	60	60	119,1	429

The application of a telescopic cylinder is to lift up tipping bodies, loaded with different materials, in order to discharge this material during its extension. This cylinder is designed as a lifting device only for loads along the longitudinal axis. It must not be used as a structural member or be subject to side load. Hydraulic oil temperature allowable range between -40°C and +80°C. Chromed thickness: minimum 20 µm For standard version, max. duration of extension is 2 hrs. Cylinder is painted gray (RAL 7021) with a thickness conforming to the 480 hours neutral salt spray test as per ISO 9227 (ISO 10289, rating 9). The max tipping weight that can be raised by the cylinder is the body weight plus the max payload. This value, calculated at the max pressure, is a rough indication of the tipping power of the cylinder and must be used as a first criteria for the selection of the cylinder. The real tipping mass can only be calculated by the design engineer of the dump truck, and must take into account the geometry of the dump body and operating conditions. Never exceed maximum cylinder load. Never exceed maximum pressure. Maximum working pressure 200 bar. For Pump flow selection, contact the Binotto Technical Department. Weights shown do not include brackets. Keep always 1 mm clearance between lower brackets and cylinder to avoid friction. Shorter outer covers are also available: if different D dimension is required, please contact Binotto Technical Department. The cylinder must always be sold together with Quick Instructions (QI) and User Manual (MU). Make sure they are included and check them carefully before installation, usage, service or repair.

COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV GL = ISO 9001 =

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#### MFC\_B3 (210 SERIES)

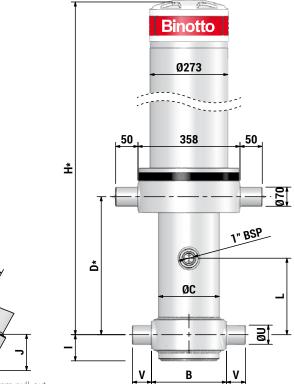
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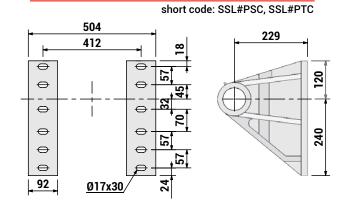
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= ISO 9001 =

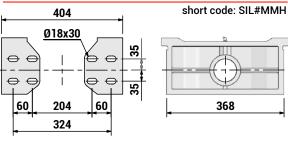
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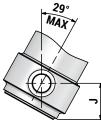
Upper brackets dimensions and chassis drilling template





Lower brackets dimensions and chassis drilling template





\*Including 20 mm pull-out.

DESCRIPTION	STAGES	STROKE [mm]	B [mm]	ØC [mm]	D* [mm]	H* [mm]	l [mm]	J [mm]	L [mm]	ØU [mm]	V [mm]	VOL [L]	WEIGHT [kg]
MFC_B3 210/5/6135	5	6135	260	238	343	1551	82	128	250	70	60	138,0	462
MFC_B3 210/5/6825	5	6825	260	238	343	1701	82	128	250	70	60	153,5	503
MFC_B3 210/5/7075	5	7075	260	238	343	1751	82	128	250	70	60	159,1	517
MFC_B3 210/5/7325	5	7325	260	238	343	1801	82	128	250	70	60	164,7	530
MFC_B3 210/5/7825	5	7825	260	238	343	1901	82	128	250	70	60	176,0	558
MFC_B3 210/5/9185	5	9185	260	238	343	2201	82	128	250	70	60	206,6	653

The application of a telescopic cylinder is to lift up tipping bodies, loaded with different materials, in order to discharge this material during its extension. This cylinder is designed as a lifting device only for loads along the longitudinal axis. It must not be used as a structural member or be subject to side load. Hydraulic oil temperature allowable range between -40°C and +80°C. Chromed thickness: minimum 20 µm For standard version, max. duration of extension is 2 hrs. Cylinder is painted gray (RAL 7021) with a thickness conforming to the 480 hours neutral salt spray test as per ISO 9227 (ISO 10289, rating 9). The max tipping weight that can be raised by the cylinder is the body weight plus the max payload. This value, calculated at the max pressure, is a rough indication of the tipping power of the cylinder and must be used as a first criteria for the selection of the cylinder. The real tipping mass can only be calculated by the design engineer of the dump truck, and must take into account the geometry of the dump body and operating conditions. Never exceed maximum cylinder load. Never exceed maximum pressure. Maximum working pressure 200 bar. For Pump flow selection, contact the Binotto Technical Department. Weights shown do not include brackets. Keep always 1 mm clearance between lower brackets and cylinder to avoid friction. Shorter outer covers are also available: if different D dimension is required, please contact Binotto Technical Department. Make sure they are included and check them carefully before installation, usage, service or repair.

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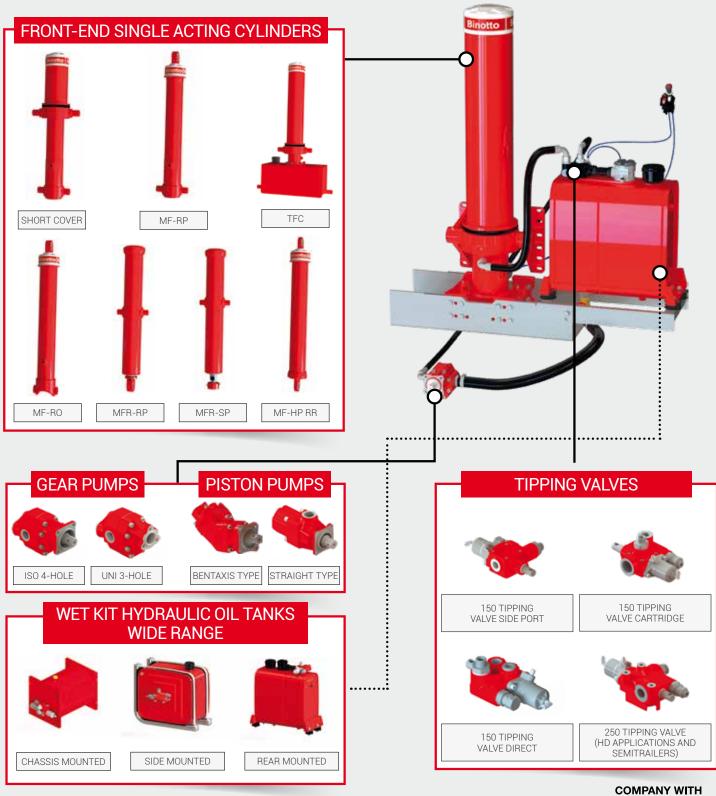






## OTHER PRODUCTS YOU MAY BE INTERESTED IN:

## COMPLETE HYDRAULIC SYSTEM FOR DUMP TRUCK



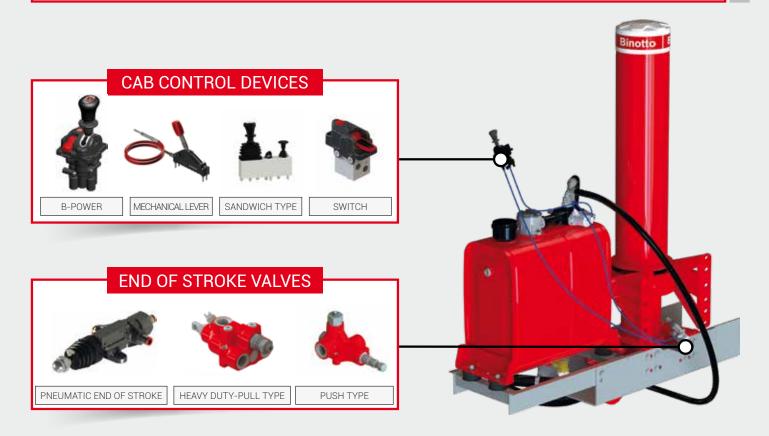
COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV GL = ISO 9001 =

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## OTHER PRODUCTS YOU MAY BE INTERESTED IN:





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## OTHER PRODUCTS YOU MAY BE INTERESTED IN:

## **BINOTTO HYDRAULICS WET KIT**

SIDE WET KIT WITH MFC\_B3 CYLINDER

<image>

REAR WET KIT WITH MF\_B3-RP CYLINDER

Binotto wet kits are available for all tipping semitrailer applications.

Numerous configuration possibilities to match all customer requests.

All components are specially designed, selected and tested for ensuring maximum performance and compatibility:

- Easy to fit
- Light weight
- Endurance
- Low maintenance costs

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## Binotto srl

Via Divisione Julia 7/b • 36031 Dueville (VICENZA) ITALY +39 0444 593290 • info@binotto.com • www.binotto.com