



## YS

### Universal cylinder

Single-acting with spring return,  
capacity 5 - 100 t

Robust construction with long guides allows the units to withstand abuse and better tolerate eccentric and side loading, yet is convenient to use with only one quick-release coupler hose connection and a spring return.

Universal cylinders are designed for all jobs where high forces but compact dimensions are required: e.g. straightening steel constructions, removing parts like shafts, axles, lifting, positioning, weighing, supporting, testing as well as for all general assembly and repair applications. Due to the various mounting threads the cylinders can easily be installed in clamping devices, welding fixtures, frame presses etc.

#### Features

- Yale ChroMo-Design.
- Operating pressure max. 700 bar.
- Single-acting with spring return.
- Robust design with long piston bearings to withstand eccentric loading.
- Cylinder body and piston are made from solid chromium-molybdenum steel and heat-treated.
- Hard-chromium plated piston with replaceable, heat-treated saddle.
- Metric mounting threads on cylinder collar, in the base and piston rod (5 to 30t).
- Stop ring can bear full capacity (pressure) and is fitted with dirt wiper.
- Interchangeable hardened saddle.
- Dirt wiper protects against dirt.
- Oil port thread 3/8 NPT.
- Incl. female coupler half model CFY-1.
- YS-50/100 and YS-50/160 with carrying handle, YS-50/320 up to YS-100/200 with lifting rings.

## INFO

---

Selection charts "cylinder/hand pumps" can be found on pages 416-417.

Travel-speed charts are supplied on pages 418-419.

## Technical data YS

Cylinder size	Model	Art.-No.	Capacity	Stroke	Effective plunger area	Oil volume max.	Closed height	Cylinder outside diameter	Weight
t			kN	mm	cm <sup>2</sup>	cm <sup>3</sup>	mm	mm	kg
5	YS-5/15	N11100001	50	15	7.2	11	45	41	0.9
5	YS-5/25	N11100002	50	25	7.2	18	97	42	1.0
5	YS-5/75	N11100003	50	75	7.2	53	157	42	1.5
5	YS-5/127	N11100004	50	127	7.2	90	214	42	2.0
5	YS-5/180	N11100005	50	180	7.2	127	267	42	2.4
10	YS-10/25	N11100006	100	25	14.3	37	90	57	1.6
10	YS-10/50	N11100007	100	50	14.3	73	125	57	2.1
10	YS-10/100	N11100008	100	100	14.3	146	178	57	2.8
10	YS-10/150	N11100009	100	150	14.3	218	250	57	4.1
10	YS-10/200	N11100010	100	200	14.3	291	300	57	4.7
10	YS-10/250	N11100011	100	250	14.3	363	352	57	5.5
10	YS-10/300	N11100012	100	300	14.3	436	407	57	6.3
15	YS-15/25	N11100013	150	25	21.5	53	110	67	2.7
15	YS-15/50	N11100014	150	50	21.5	106	140	67	3.3
15	YS-15/100	N11100015	150	100	21.5	213	190	67	4.3
15	YS-15/150	N11100016	150	150	21.5	319	260	67	5.8
15	YS-15/200	N11100017	150	200	21.5	425	310	67	7.0
15	YS-15/250	N11100018	150	250	21.5	531	365	67	8.0
15	YS-15/300	N11100019	150	300	21.5	637	420	67	9.0
15	YS-15/350	N11100020	150	350	21.5	744	472	67	10.0
23	YS-23/25	N11100021	230	25	32.9	83	116	85	5.0
23	YS-23/50	N11100022	230	50	32.9	166	150	85	6.0
23	YS-23/100	N11100023	230	100	32.9	332	202	85	7.5
23	YS-23/160	N11100024	230	160	32.9	531	277	85	10.0
23	YS-23/210	N11100025	230	210	32.9	697	330	85	12.0
23	YS-23/250	N11100026	230	250	32.9	830	376	85	13.5
23	YS-23/300	N11100027	230	300	32.9	996	428	85	15.0
23	YS-23/345	N11100028	230	345	32.9	1145	477	85	16.5
30	YS-30/125	N11100029	300	125	42.9	552	245	102	13.0
30	YS-30/200	N11100030	300	200	42.9	884	325	102	17.0
50	YS-50/50	N11100031	500	50	71.5	355	170	125	15.0
50	YS-50/100	N11100032	500	100	71.5	709	220	125	19.0
50	YS-50/160	N11100033	500	160	71.5	1135	285	125	24.0
50	YS-50/320	N11100034	500	320	71.5	2269	460	125	37.0
70	YS-70/150	N11100035	700	150	100.0	1478	285	146	32.0
70	YS-70/330	N11100036	700	330	100.0	3252	490	146	52.0
100	YS-100/100	N11100476	1000	100	143.0	1432	275	180	43.0
100	YS-100/200	N11100037	1000	200	143.0	2863	375	180	64.0



Accessories for YS cylinders like lifting claws, piston plates, base adaptors, extension tubes, support plates and threaded flanges are also available



Support plates are available as accessories



Threaded flanges are available as accessories

## INFO

For accessories for cylinders series YS please see pages 356 - 358.

# Hydraulic Jacks & Tools    Hydraulic cylinders, single-acting

## Dimensions YS

Model	YS-5/15	YS-5/25	YS-5/75	YS-5/127	YS-5/180	YS-10/25	YS-10/50	YS-10/100	YS-10/150	YS-10/200
A, mm	45	97	157	214	267	90	125	178	250	300
B, mm	60	122	232	341	447	115	175	278	400	500
C, mm	45	92	152	209	262	88	119	172	244	294
D, mm	41	42	42	42	42	57	57	57	57	57
E, mm	30	30	30	30	30	43	43	43	43	43
F, mm	25	26	26	26	26	38	38	38	38	38
H, mm	19	19	19	19	19	17	19	19	21	21
J, mm	-	25	25	25	25	-	35	35	35	35
K, mm	-	5	5	5	5	3	6	6	6	6
O, mm	-	M20 x 2	M20 x 2	M20 x 2	M20 x 2	-	M27 x 2	M27 x 2	M27 x 2	M27 x 2
P, mm	-	13	13	13	13	-	17	17	22	22
S, mm	-	-	-	-	-	-	-	-	-	-
U, mm	28.5	28	28	28	28	35	35	35	35	35
V, mm	2 x 5.5 Ø	2 x M6	2 x M6	2 x M6	2 x M6	2 x M8	2 x M8	2 x M8	2 x M8	2 x M8
W, mm	-	23	23	23	23	27	27	27	27	27
X, mm	-	M42 x 1.5	M42 x 1.5	M42 x 1.5	M42 x 1.5	M57 x 1.5	M57 x 1.5	M57 x 1.5	M57 x 1.5	M57 x 1.5
Z, °	5	5	5	5	5	5	5	5	-	-

Model	YS-10/250	YS-10/300	YS-15/25	YS-15/50	YS-15/100	YS-15/150	YS-15/200	YS-15/250	YS-15/300	YS-15/350
A, mm	352	407	110	140	190	260	310	365	420	472
B, mm	602	707	135	190	290	410	510	615	720	822
C, mm	346	401	103	133	183	253	303	358	413	465
D, mm	57	57	67	67	67	67	67	67	67	67
E, mm	43	43	52	52	52	52	52	52	52	52
F, mm	38	38	46	46	46	46	46	46	46	46
H, mm	21	21	19	19	19	22	22	22	22	22
J, mm	35	35	40	40	40	40	40	40	40	40
K, mm	6	6	7	7	7	7	7	7	7	7
O, mm	M27 x 2	M27 x 2	M33 x 2	M33 x 2	M33 x 2	M33 x 2	M33 x 2	M33 x 2	M33 x 2	M33 x 2
P, mm	22	22	19	19	19	25	25	25	25	25
S, mm	-	-	-	-	-	-	-	-	-	-
U, mm	35	35	42	42	42	42	42	42	42	42
V, mm	2 x M8	2 x M8	2 x M10	2 x M10	2 x M10	2 x M10	2 x M10	2 x M10	2 x M10	2 x M10
W, mm	27	27	33	33	33	33	33	33	33	33
X, mm	M57 x 1.5	M57 x 1.5	M67 x 1.5	M67 x 1.5	M67 x 1.5	M67 x 1.5	M67 x 1.5	M67 x 1.5	M67 x 1.5	M67 x 1.5
Z, °	-	-	5	5	5	-	-	-	-	-

Model	YS-23/25	YS-23/50	YS-23/100	YS-23/160	YS-23/210	YS-23/250	YS-23/300	YS-23/345	YS-30/125	YS-30/200
A, mm	116	150	202	277	330	376	428	477	245	325
B, mm	141	200	302	437	540	626	728	822	370	525
C, mm	113	142	194	269	322	368	420	469	235	315
D, mm	85	85	85	85	85	85	85	85	102	102
E, mm	65	65	65	65	65	65	65	65	75	75
F, mm	56	56	56	56	56	56	56	56	65	65
H, mm	20	22	22	22	22	22	22	22	25	25
J, mm	50	50	50	50	50	50	50	50	50	50
K, mm	3	8	8	8	8	8	8	8	10	10
O, mm	M40 x 2	M40 x 2	M40 x 2	M40 x 2	M40 x 2	M40 x 2	M40 x 2	M40 x 2	M36 x 2	M36 x 2
P, mm	15	22	22	25	25	25	25	25	25	25
S, mm	-	-	-	-	-	-	-	-	-	-
U, mm	55	55	55	55	55	55	55	55	75	75
V, mm	4 x M10	4 x M10	4 x M10	4 x M10	4 x M10	4 x M10	4 x M10	4 x M10	4 x M10	4 x M10
W, mm	40	40	40	40	40	40	40	40	45	45
X, mm	M85 x 2	M85 x 2	M85 x 2	M85 x 2	M85 x 2	M85 x 2	M85 x 2	M85 x 2	M102 x 2	M102 x 2
Z, °	5	-	-	-	-	-	-	-	-	-





YLS



YFS

## YLS and YFS Low-height and flat cylinders

Single-acting with spring return,  
capacity max. 10 - 100 t

Low-height cylinders are recommended for all lifting, pushing, levelling, pressing applications especially in tight working areas.

These very compact hydraulic cylinders are designed for lifting and positioning jobs as well as all general maintenance applications, where low height, portability and light weight are needed. These versatile cylinders are found in all industrial areas like steel mills, civil engineering, heavy construction industry, power plants, off-shore industries etc. Due to their short strokes flat cylinders should not be subjected to side loading.

### Features

- Yale Chromo-Design.
- Operating pressure max. 700 bar.
- Single-acting with spring return.
- Low height for tight working areas.
- Cylinder body and piston are made from solid chromium-molybdenum steel and heat-treated.
- Stop ring can bear full capacity (pressure) and is fitted with dirt wiper.
- Oil port thread 3/8 NPT.
- Incl. female coupler half model CFY-1.
- YLS-100/55 with lifting rings,  
YFS-100/15 with carrying handle.

## INFO

Selection charts "cylinder/hand pumps" can be found on pages 416-417.

Travel-speed charts are supplied on pages 418-419.



## Technical data YLS

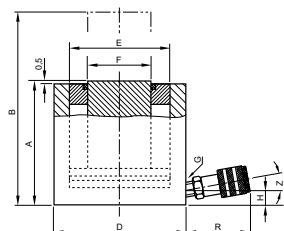
Cylinder size	Model	Art.-No.	Capacity max.	Stroke	Effective plunger area	Oil volume max.	Closed height	Cylinder outside diameter	Weight
t			kN	mm	cm <sup>2</sup>	cm <sup>3</sup>	mm	mm	kg
10	YLS-10/35	N11300634	100	35	14.3	51	86	70	2.5
20	YLS-20/45	N11300635	200	45	28.6	128	100	85	4.0
30	YLS-30/60	N11300636	300	60	42.9	266	120	100	6.5
50	YLS-50/60	N11300637	500	60	71.5	426	122	125	10.4
100	YLS-100/55	N11300638	1000	55	143.0	788	141	170	24.0

## Technical data YFS

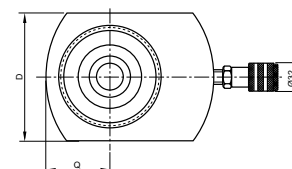
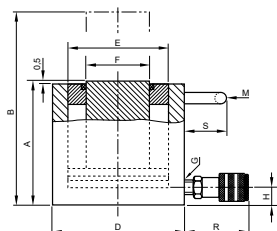
Cylinder size	Model	Art.-No.	Capacity max.	Stroke	Effective plunger area	Oil volume max.	Closed height	Cylinder outside diameter	Weight
t			kN	mm	cm <sup>2</sup>	cm <sup>3</sup>	mm	mm	kg
10	YFS-10/11	N11300629	100	11	14.3	16	43	56	1.5
20	YFS-20/15	N11300630	200	15	28.6	31	60	76	3.0
30	YFS-30/15	N11300631	300	15	44.2	66	60	96	4.2
50	YFS-50/15	N11300632	500	15	71.5	107	70	145	8.7
100	YFS-100/15	N11300633	1000	15	143.0	215	91	170	16.0

## Dimensions YLS and YFS

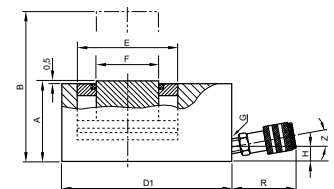
Model	YLS-10/35	YLS-20/45	YLS-30/60	YLS-50/60	YLS-100/55	YFS-10/11	YFS-20/15	YFS-30/15	YFS-50/15	YFS-100/15
A, mm	86	100	120	122	141	43	60	60	70	91
B, mm	121	145	180	182	196	54	75	75	85	106
D, mm	70	85	100	125	170	56	76	96	145	170
D1, mm	-	-	-	-	-	83	95	115	-	-
E, mm	43	60	75	95	135	43	60	75	95	135
F, mm	38	50	57	75	120	38	50	57	75	120
H, mm	16	17	19	19	26	16	19	19	19	22
M, mm	-	-	-	-	148	-	-	-	-	85
Q, mm	-	-	-	-	-	28	38	48	-	-
R, mm	54	54	54	54	54	54	54	54	54	54
S, mm	-	-	-	-	25	-	-	-	-	55
Z, °	10	10	5	5	-	10	5	5	5	5



YLS



YFS





### YPL

#### Pull cylinder

Single-acting with spring return,  
capacity max. 10 - 51 t

Pull cylinders are able to produce extremely high pulling forces and can be controlled precisely by the use of hand pumps or power packs. In neutral position pull cylinders are fully extended. As soon as the cylinders are pressurized the forged links are drawn together. A built-in return spring extends the piston again as soon as the pressure is released.

Shipbuilding, heavy-vessel construction, steel construction, civil engineering as well as general repair and maintenance applications.

#### Features

- Yale ChroMo-Design.
- Operating pressure max. 700 bar.
- Single-acting with spring return.
- Can be operated in all positions (except model YPPS).
- Cylinder body and piston are made from solid chromium-molybdenum steel and heat-treated.
- Hard-chromium plated piston with replaceable, heat-treated saddle.
- Stop ring can bear full capacity (pressure) and is fitted with dirt wiper.
- Forged, replaceable links.
- With carrying handle and piston protection cover.
- Oil port thread 3/8 NPT.
- Incl. female coupler half model CFY-1.
- The pull cylinder YPPS-10/150 is equipped with an integrated hand pump similar to HPS-2/0,7 A.

### INFO

---

Selection charts "cylinder/hand pumps" can be found on pages 416-417.

Travel-speed charts are supplied on pages 418-419.

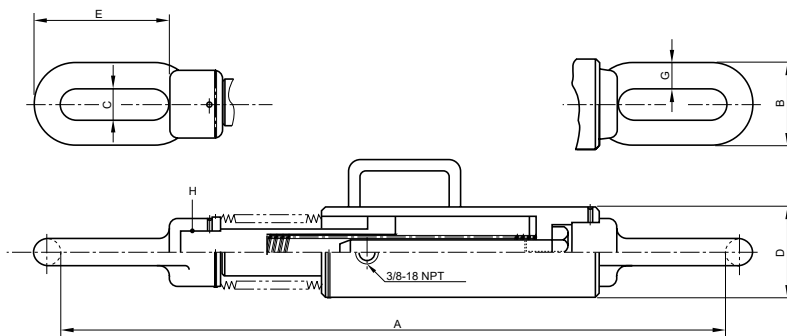


## Technical data YPL

Cylinder size t	Model	Art.-No.	Capacity max. kN	Stroke mm	Effective plunger area cm <sup>2</sup>	Oil volume max. cm <sup>3</sup>	Length between links mm	Weight kg
10	YPL-10/150	N11900349	100	150	14.2	213	750	9
20	YPL-20/150	N11900350	200	150	30.6	459	795	22
30	YPL-30/150	N11900351	300	150	42.6	639	875	29
51	YPL-51/150	N11900927	510	150	74.6	1120	955	59
10	YPPS-10/150	N11900001	100	150	14.2	213	750	19

## Dimensions YPL

Model	YPL-10/150	YPL-20/150	YPL-30/150	YPL-51/150	YPPS-10/150
A, mm	749	795	875	955	749
B, mm	78	95	120	150	78
C, mm	32	35	56	70	32
D, mm	68	105	121	156	68
E, mm	120	120	150	150	120
G, mm	23	30	32	40	23
H, mm	M24 x 1.5	M45 x 2	M50 x 2	M60 x 2	M24 x 1.5







## INFO

Selection charts "cylinder/hand pumps" can be found on pages 416-417.

Travel-speed charts are supplied on pages 418-419.



## YCS

### Hollow cylinders

Single-acting with spring return,  
capacity 12 - 93 t

Due to the centre hole design a threaded rod can be placed through the hollow cylinders so that extremely high pulling forces can be achieved.

Hollow cylinders are used as the power component within hydraulic puller sets, for prestressing anker bolts, removing axles, shafts, bushings, extracting tubes, as well as for heavy-duty pulling applications.

#### Features

- Yale ChroMo-Design.
- Operating pressure max. 700 bar.
- Single-acting with spring return.
- With large centre hole diameter.
- Cylinder body and piston are made from solid chromium-molybdenum steel and heat-treated.
- Hard-chromium plated piston with replaceable, heat-treated saddle.
- Metric mounting threads at cylinder body and inside of piston.
- Stop ring prevents overtravel of the piston up to full operating pressure.
- Interchangeable hardened saddle.
- With inner and outer dirt wipers.
- Oil port thread 3/8 NPT.
- Incl. female coupler half model CFY-1.
- From model YCS-21/150 with carrying handle.
- From model YCS-57/70 with two lifting rings.

### Function principal of the hollow cylinders

In connection with threaded rods hollow cylinders can produce extremely high forces which are helpful for various repair or assembly applications like removing press-fitted parts, prestressing anchors etc.

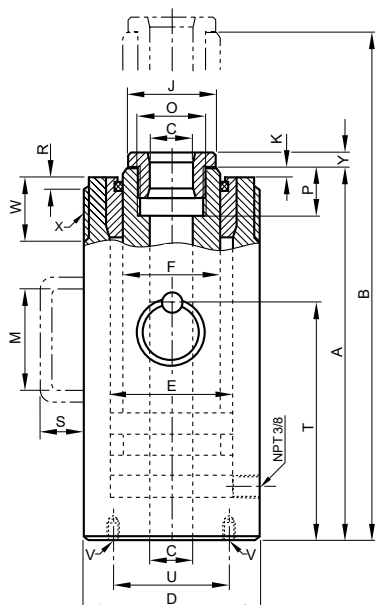
In addition, hollow cylinders are used as power source in puller sets and test rigs. By the use of long threaded rods and by readjusting the nut larger distances can be pulled even when using short cylinder strokes.

## Technical data YCS

Cylinder size	Model	Art.-No.	Capacity	Stroke	Effective plunger area	Oil volume max.	Closed height	Centre hole diameter	Cylinder outside diameter	Weight
t			kN	mm	cm <sup>2</sup>	cm <sup>3</sup>	mm	mm	mm	kg
12	YCS-12/40	N11400070	120	40	17.2	71	142	20	70	3.5
12	YCS-12/75	N11400071	120	75	17.2	132	195	20	70	4.5
21	YCS-21/50	N11400072	214	50	30.5	153	173	27	100	8.5
21	YCS-21/150	N11400073	214	150	30.5	458	335	27	100	15.0
33	YCS-33/60	N11400074	335	60	47.9	287	193	33	114	12.0
33	YCS-33/150	N11400075	335	150	47.9	716	343	33	114	21.0
57	YCS-57/70	N11400076	567	70	81.0	562	242	42	150	25.0
62	YCS-62/150	N11400077	618	150	88.3	1330	335	55	163	38.0
93	YCS-93/75	N11400078	930	75	133	990	280	80	214	55.0

## Dimensions YCS

Model	YCS-12/40	YCS-12/75	YCS-21/50	YCS-21/150	YCS-33/60	YCS-33/150	YCS-57/70	YCS-62/150	YCS-93/75
A, mm	135	188	163	325	183	333	230	323	265
B, mm	175	263	213	475	243	483	300	473	340
C, mm	20	20	27	27	33	33	42	55	80
D, mm	70	70	100	100	114	114	150	163	214
E, mm	55	55	73	73	90	90	118	130	170
F, mm	40	40	53	53	65	65	90	100	136
J, mm	38	38	50	50	62	62	85	96	132
K, mm	3	3	3	3	3	3	3	3	5
M, mm	-	-	-	120	-	120	-	-	-
O, mm	M30 x 1.5	M30 x 1.5	M40 x 1.5	M40 x 1.5	M48 x 1.5	M48 x 1.5	M65 x 2	M78 x 2	M115 x 2
P, mm	20	20	25	25	30	30	35	40	45
R, mm	4	4	5	5	5	5	5	5	-
S, mm	-	-	-	51	-	51	24	24	24
T, mm	-	-	-	-	-	-	155	200	170
U, mm	58	58	82	82	92	92	120	135	180
V, mm	2 x M8	2 x M8	2 x M10	2 x M10	4 x M10	4 x M10	4 x M12	4 x M12	4 x M16
W, mm	30	30	35	35	40	40	50	60	-
X, mm	M70 x 2	M70 x 2	M100 x 2	M100 x 2	M110 x 2	M110 x 2	M150 x 3	M160 x 3	-
Y, mm	7	7	10	10	10	10	12	12	15





## YCH

### Hollow cylinders

Double-acting with hydraulic return, capacity 33 - 140 t

Basically, the applications are the same as for the single-acting hollow cylinders shown on the opposite page, but for this model range the return of the piston is done hydraulically by means of the second oil port. These double-acting hollow cylinders are used when the piston needs to be retracted quickly e.g. with high-cycle pulling applications.

#### Features

- Yale ChroMo-Design.
- Operating pressure max. 700 bar.
- Double-acting with hydraulic return.
- With large centre hole diameter.
- Cylinder body and piston are made from solid chromium-molybdenum steel and heat-treated.
- Hard-chromium plated piston with replaceable, heat-treated saddle.
- Metric mounting threads at cylinder body and inside of piston.
- Stop ring prevents overtravel of the piston up to full operating pressure.
- Interchangeable hardened saddle.
- With inner and outer dirt wipers.
- Oil port thread 3/8 NPT.
- Incl. 2 female coupler halves model CFY-1.
- All cylinders with carrying handle, from model YCH-62/250 with 2 lifting rings.

## INFO

Sonderanfertigungen bis zu einer Zugkraft von 600 t liefern wir auf Anfrage.

On request we supply special hollow cylinders with pulling capacities up to 600 tons.

Selection charts "cylinder/hand pumps" can be found on pages 416-417.

Travel-speed charts are supplied on pages 418-419.

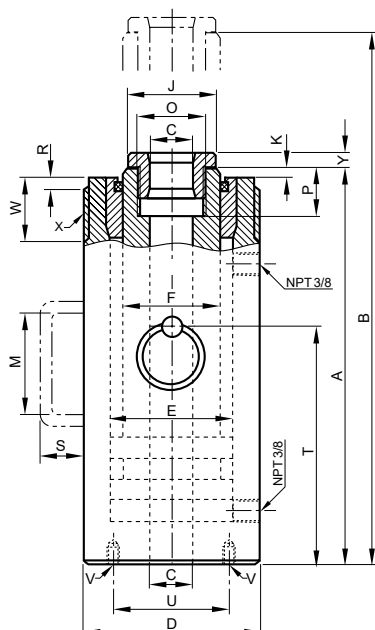
## Technical data YCH

Cylinder size	Model	Art.-No.	Capacity push	Capacity pull	Stroke	Effective plunger area	Oil volume max.	Closed height	Centre hole diameter	Cylinder outside diameter	Weight
t			kN	kN	mm	cm <sup>2</sup>	cm <sup>3</sup>	mm	mm	mm	kg
33	YCH-33/150	N11400079	335	180	150	47.9	716	310	33	114	19
33	YCH-33/250	N11400080	335	180	250	47.9	1200	415	33	114	25
62	YCH-62/250	N11400081	618	300	250	88.3	2220	452	55	163	55
93	YCH-93/250	N11400082	930	450	250	133.0	3320	465	55	193	82
100	YCH-100/40	N11400083	1000	500	40	143.0	578	190	55	200	38
140	YCH-140/200	N11400084	1400	700	200	200.2	4080	383	80	253	115

For double-acting hollow cylinders the "capacity push" is equivalent to the max. pulling force achieved with tensioning anchor or threaded spindle.

## Dimensions YCH

Model	YCH-33/150	YCH-33/250	YCH-62/250	YCH-93/250	YCH-100/40	YCH-140/200
A, mm	300	405	440	450	175	365
B, mm	450	655	690	700	215	565
C, mm	33	33	55	55	55	80
D, mm	114	114	163	193	200	253
E, mm	90	90	130	150	155	195
F, mm	67	67	105	120	125	160
J, mm	62	62	96	110	110	145
K, mm	3	3	5	5	5	5
M, mm	120	120	-	-	-	-
O, mm	M48 x 1.5	M48 x 1.5	M78 x 2	M85 x 2	M85 x 2	M115 x 2
P, mm	30	30	40	45	45	50
R, mm	5	5	5	5	-	-
S, mm	51	51	24	30	24	30
T, mm	-	-	290	290	115	240
U, mm	92	92	135	160	165	210
V, mm	4 x M10	4 x M10	4 x M12	4 x M16	4 x M16	4 x M16
W, mm	40	40	50	65	-	-
X, mm	M110 x 2	M110 x 2	M160 x 3	M190 x 3	-	-
Y, mm	10	10	12	15	15	18





### YH Universal cylinders

Double-acting with hydraulic return,  
capacity 5 - 200 t

These extremely robust double-acting cylinders are especially designed for universal heavy-duty lifting and positioning applications as well as for industrial production and assembly jobs. The cylinders offer high pushing and pulling forces. The double-acting design assures a high piston retraction speed.

Major areas of application are bridge building and civil engineering, off-shore, ship building, etc. They can also be used as power source in frame presses, stamping fixtures and other industrial uses where high pushing and pulling forces are required.

#### Features

- Yale ChroMo-Design.
- Operating pressure max. 700 bar.
- Double-acting with hydraulic return.
- Long bronze piston guidings.
- Piston strokes from 30 up to 500 mm.
- Cylinder body and piston are made from solid chromium-molybdenum steel and heat-treated.
- Double bronze bearing of the hard chromium plated piston.
- Metric mounting threads on cylinder housing, in the bottom of the cylinder body and in the piston rod.
- Stop ring can bear full capacity (pressure) and is fitted with dirt wiper.
- Interchangeable hardened saddle.
- Dirt wiper protects against dirt.
- Oil port thread 3/8 NPT.
- Incl. 2 female coupler halves model CFY-1.
- From model YH-30/200 with carrying handle.
- From model YH-50/350 with 2 lifting rings.

### INFO

---

For cylinders series YH accessories please see pages 358-359.

Selection charts "cylinder/hand pumps" can be found on pages 416-417.

Travel-speed charts are supplied on pages 418-419.

## Technical data YH

Cylinder size	Model	Art.-No.	Capacity push	Capacity pull	Stroke	Effective plunger area push	Effective plunger area pull	Oil volume max.	Closed height	Cylinder outside diameter	Weight
t			kN	kN	mm	cm <sup>2</sup>	cm <sup>2</sup>	cm <sup>3</sup>	mm	mm	kg
5	YH-5/30	N11200038	50	22	30	7.2	3.1	21	160	55	2.5
5	YH-5/80	N11200039	50	22	80	7.2	3.1	57	210	55	3.3
5	YH-5/150	N11200040	50	22	150	7.2	3.1	106	280	55	4.4
10	YH-10/30	N11200041	100	45	30	14.3	6.4	44	175	67	4.0
10	YH-10/80	N11200042	100	45	80	14.3	6.4	116	225	67	5.0
10	YH-10/150	N11200043	100	45	150	14.3	6.4	218	295	67	6.7
10	YH-10/250	N11200044	100	45	250	14.3	6.4	363	395	67	9.0
20	YH-20/50	N11200045	200	100	50	28.6	14.3	142	195	85	7.0
20	YH-20/150	N11200046	200	100	150	28.6	14.3	424	310	85	11.0
20	YH-20/250	N11200047	200	100	250	28.6	14.3	707	410	85	14.0
30	YH-30/200	N11200048	300	140	200	42.9	20.0	884	355	102	19.0
30	YH-30/350	N11200049	300	140	350	42.9	20.0	1547	510	102	27.0
50	YH-50/150	N11200050	500	220	150	71.5	31.5	1064	325	125	27.0
50	YH-50/350	N11200051	500	220	350	71.5	31.5	2481	525	125	42.0
50	YH-50/500	N11200052	500	220	500	71.5	31.5	3544	685	125	52.0
70	YH-70/150	N11200053	700	330	150	100.0	47.2	1478	335	146	37.0
70	YH-70/350	N11200054	700	330	350	100.0	47.2	3449	540	146	56.0
100	YH-100/50	N11200055	1000	450	50	143.0	64.4	716	265	180	49.0
100	YH-100/150	N11200056	1000	450	150	143.0	64.4	2148	365	180	64.0
100	YH-100/350	N11200057	1000	450	350	143.0	64.4	5010	565	180	94.0
100	YH-100/500	N11200058	1000	450	500	143.0	64.4	7157	725	180	118.0
200	YH-200/150	N11200059	2000	900	150	286.0	128.7	4253	410	250	137.0
200	YH-200/350	N11200060	2000	900	350	286.0	128.7	9924	620	250	198.0
200	YH-200/500	N11200061	2000	900	500	286.0	128.7	14177	780	250	244.0













## YEHB

### High-tonnage cylinders

Double-acting with hydraulic return, capacity max. 140 - 1100t

Cylinders of series YEHB are normally used for lifting, positioning or handling heavy loads. The double-acting function allows a faster piston return, even with longer hydraulic hoses.

Lifting and moving of large machinery, steel construction, bridges or similar loads, supporting of buildings and foundations.

Further applications are positioning, weighing, through pressing, stress testing or jacking of all kinds of loads.

#### Features

- Operating pressure max. 700 bar.
- Double-acting with hydraulic return.
- Generous guiding bands ensure a robust piston guiding.
- Hard chromium-plated piston.
- Stop ring as piston end stop.
- Interchangeable hardened saddle.
- Dirt wiper protects against dirt.
- Oil port thread 3/8 NPT.
- Incl. 2 female coupler halves model CFY-1.
- Mounting threads on request.
- All cylinders have lifting rings.



## INFO

---

Selection charts "cylinder/hand pumps" can be found on pages 416-417.

Travel-speed charts are supplied on pages 418-419.



Technical data YEHB

Cylinder size t	Model	Art.-No	Capacity max kN	Stroke mm	Effective plunger area cm <sup>2</sup>	Oil volume max cm <sup>3</sup>	Closed height mm	Cylinder outside diameter mm	Weight kg
140	YEHB-140/50	-	1407	50	201	1005	213	210	53
140	YEHB-140/150	-	1407	150	201	3016	318	210	74
140	YEHB-140/300	-	1407	300	201	6032	478	210	104
220	YEHB-220/50	-	2199	50	314	1571	233	260	90
220	YEHB-220/150	-	2199	150	314	4712	333	260	120
220	YEHB-220/300	-	2199	300	314	9425	498	260	169
310	YEHB-310/50	-	3036	50	434	2169	251	305	137
310	YEHB-310/150	-	3036	150	434	6506	357	305	189
310	YEHB-310/300	-	3036	300	434	13012	512	305	263
410	YEHB-410/50	-	4008	50	573	2863	275	350	197
410	YEHB-410/150	-	4008	150	573	8588	382	350	262
410	YEHB-410/300	-	4008	300	573	17177	538	350	357
520	YEHB-520/50	-	5114	50	731	3653	305	400	197
520	YEHB-520/150	-	5114	150	731	10959	410	400	262
520	YEHB-520/300	-	5114	300	731	21918	566	400	357
610	YEHB-610/50	-	5987	50	855	4276	315	430	342
610	YEHB-610/150	-	5987	150	855	12829	420	430	440
610	YEHB-610/300	-	5987	300	855	25659	576	430	583
830	YEHB-830/50	-	8149	50	1164	5821	335	505	504
830	YEHB-830/150	-	8149	150	1164	17462	446	505	649
830	YEHB-830/300	-	8149	300	1164	34925	606	505	858
1100	YEHB-1100/50	-	10644	50	1521	7603	365	570	696
1100	YEHB-1100/150	-	10644	150	1521	22808	476	570	869
1100	YEHB-1100/300	-	10644	300	1521	45616	636	570	1116



INFO

For tilt saddles for cylinders please see pages 354-355.



## YELB Hydraulic cylinders with safety lock nut

Single-acting, gravity return  
capacity max. 30 - 1100t

Hydraulic cylinders with safety lock nut are recommended when loads have to remain in the lifted position over a period of time. The safety lock nut ensures a positive load hold in any position, and work can be carried out beneath the lifted load. Hydraulic pressure can be released so that cylinders work like mechanical supports. Pumps can be separated from cylinders.

Lifting and moving of large machinery, steel construction, bridges or similar loads, supporting of buildings and foundations.

For all heavy-duty jacking applications where a special safety factor is appropriate like lifting and lowering bridges, supporting buildings and foundations, jacking up heavy machines, steel sections, ship modules or similar loads.

### Features

- Operating pressure max. 700 bar.
- Single-acting, gravity return.
- Generous guiding bands ensure a robust piston guiding.
- Hard chromium-plated piston with trapezoidal thread.
- Overflow hole ensures a definite piston end stop.
- Interchangeable hardened saddle.
- Oil port thread 3/8 NPT.
- Incl. female coupler half model CFY-1.
- All cylinders have lifting rings.

## INFO

Further piston strokes are quoted on request.

For tilt saddles for cylinders please see pages 354 - 355.



## Technical data YELB

Cylinder size	Model	Art.-No.	Capacity max.	Stroke	Effective plunger area	Oil volume max.	Closed height	Cylinder outside diameter	Weight
t			kN	mm	cm <sup>2</sup>	cm <sup>3</sup>	mm	mm	kg
30	YELB-30/50	-	303	50	44	221	141	100	9
30	YELB-30/100	-	303	100	44	442	191	100	12
30	YELB-30/150	-	303	150	44	663	246	100	15
30	YELB-30/200	-	303	200	44	884	296	100	18
30	YELB-30/300	-	303	300	44	1325	405	100	25
50	YELB-50/50	-	496	50	71	354	153	125	14
50	YELB-50/100	-	496	100	71	709	203	125	19
50	YELB-50/150	-	496	150	71	1063	261	125	25
50	YELB-50/200	-	496	200	71	1418	311	125	30
50	YELB-50/300	-	496	300	71	2126	416	125	40
100	YELB-93/50	-	929	50	133	664	180	170	31
100	YELB-93/100	-	929	100	133	1327	230	170	40
100	YELB-93/150	-	929	150	133	1991	285	170	50
100	YELB-93/200	-	929	200	133	2655	335	170	59
100	YELB-93/300	-	929	300	133	3982	441	170	78
140	YELB-140/50	-	1407	50	201	1005	195	210	52
140	YELB-140/100	-	1407	100	201	2011	245	210	65
140	YELB-140/150	-	1407	150	201	3016	309	210	83
140	YELB-140/200	-	1407	200	201	4021	359	210	96
140	YELB-140/300	-	1407	300	201	6032	465	210	125
220	YELB-220/150	-	2192	150	314	4712	328	260	134
220	YELB-220/300	-	2192	300	314	9425	488	260	201
310	YELB-310/150	-	3037	150	434	6506	351	305	197
310	YELB-310/300	-	3037	300	434	13012	511	305	289
410	YELB-410/150	-	4008	150	573	8588	370	350	274
410	YELB-410/300	-	4008	300	573	17177	530	350	395
520	YELB-520/150	-	5114	150	731	10959	395	400	378
520	YELB-520/300	-	5114	300	731	21918	555	400	535
610	YELB-610/50	-	5987	50	855	4276	311	430	347
610	YELB-610/150	-	5987	150	855	12829	421	430	472
610	YELB-610/300	-	5987	300	855	25659	581	430	654
830	YELB-830/50	-	8149	50	1164	5821	348	505	537
830	YELB-830/150	-	8149	150	1164	17462	458	505	709
830	YELB-830/300	-	8149	300	1164	34925	618	505	959
1085	YELB-1100/50	-	10644	50	1520	7603	392	570	772
1085	YELB-1100/150	-	10644	150	1520	22808	502	570	991
1085	YELB-1100/300	-	10644	300	1520	45616	673	570	1332

## INFO

Selection charts "cylinder/hand pumps" can be found on pages 416-417.

Travel-speed charts are supplied on pages 418-419.



### INFO

---

Further piston strokes are quoted on request.

The use of tilt saddles is recommended.

Selection charts "cylinder/hand pumps" can be found on pages 416-417.

Travel-speed charts are supplied on pages 418-419.

### YEGB

#### High-tonnage cylinders

Single-acting, gravity return  
capacity max. 140 - 1100t

These inexpensive cylinders of series YEGB are used for all general lifting applications in any area of industry where heavy loads need to be lifted, lowered, levelled, positioned or supported.

Lifting and moving large machinery, steel construction, bridges or similar loads, supporting buildings and foundations.

For all heavy-duty jacking applications where a special safety factor is appropriate like lifting and lowering bridges, supporting buildings and foundations, jacking up heavy machines, steel sections, ship modules or similar loads.

#### Features

- Operating pressure max. 700 bar.
- Plunger in special piston guiding bands.
- Hard chromium-plated piston.
- Overflow hole ensures a definite piston end stop.
- Interchangeable hardened saddle.
- Oil port thread 3/8 NPT.
- Incl. female coupler half model CFY-1.
- All cylinders have lifting rings.



### INFO

---

Available for all cylinder series YELB, YEGB and YEHB.

### AYB

#### Tilt saddles for cylinders

Tilt saddles should be used with YELB and YEGB cylinders in cases where cylinders are operated on non-parallel surfaces.

The saddles minimize inner friction caused by eccentric loading of the cylinders. The upper part of the saddle can pivot up to 5° in all directions. Tilt saddles are fixed in the piston by means of an O-ring.

## Technical data YEGB

Cylinder size	Model	Art.-No.	Capacity max.	Stroke	Effective plunger area	Oil volume max.	Closed height	Cylinder outside diameter	Weight
t			kN	mm	cm <sup>2</sup>	cm <sup>3</sup>	mm	mm	kg
140	YEGB-140/50	–	1407	50	201	1005	160	210	43
140	YEGB-140/150	–	1407	150	201	3016	274	210	74
140	YEGB-140/300	–	1407	300	201	6032	430	210	116
220	YEGB-220/50	–	2200	50	314	1571	180	260	75
220	YEGB-220/150	–	2200	150	314	4712	291	260	120
220	YEGB-220/300	–	2200	300	314	9425	451	260	187
310	YEGB-310/50	–	3036	50	434	2169	193	305	110
310	YEGB-310/150	–	3036	150	434	6506	309	305	176
310	YEGB-310/300	–	3036	300	434	13012	469	305	267
410	YEGB-410/50	–	4008	50	573	2863	215	350	161
410	YEGB-410/150	–	4008	150	573	8588	325	350	244
410	YEGB-410/300	–	4008	300	573	17177	485	350	364
520	YEGB-520/50	–	5114	50	731	3653	225	400	221
520	YEGB-520/150	–	5114	150	731	10959	335	400	329
520	YEGB-520/300	–	5114	300	731	21918	495	400	486
610	YEGB-610/50	–	5987	50	855	4276	236	430	268
610	YEGB-610/150	–	5987	150	855	12829	346	430	393
610	YEGB-610/300	–	5987	300	855	25659	506	430	574
830	YEGB-830/50	–	8149	50	1164	5821	263	505	411
830	YEGB-830/150	–	8149	150	1164	17462	373	505	583
830	YEGB-830/300	–	8149	300	1164	34925	533	505	834
1085	YEGB-1100/50	–	10644	50	1521	7603	292	570	582
1085	YEGB-1100/150	–	10644	150	1521	22808	402	570	801
1085	YEGB-1100/300	–	10644	300	1521	45616	573	570	1142

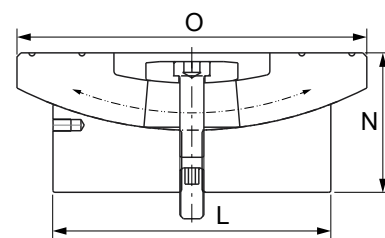
## Technical data AYB

Model	Art.-No.	Suitable for cylinder groups	Weight kg
AYB-50	–	YELB-30 and YELB-50	0.4
AYB-93	–	YELB-93	0.8
AYB-140	–	YELB-140, YEGB-140, YEHB-140	2.0
AYB-220	–	YELB-220, YEGB-220, YEHB-220	3.4
AYB-310	–	YELB-310, YEGB-310, YEHB-310	13.0
AYB-410	–	YELB-410, YEGB-410, YEHB-410	on request
AYB-520	–	YELB-520, YEGB-520, YEHB-520	on request

Other sizes on request

## Dimensions AYB

Model	AYB-50	AYB-93	AYB-140	AYB-220	AYB-310	AYB-410	AYB-520
L, mm	50	71.5	94	113	139	159	179
N, mm	34	30	39.2	43	68.5	78	77
O, mm	71	71	97	126	175	210	230







## AYS

### Lifting claws, piston plates, base adaptors and extension tubes, load-spreading plates

#### Lifting claws

In connection with the corresponding hydraulic cylinder a lifting claw represents a compact, lightweight and versatile lifting unit. The lifting claws are screwed onto the collar thread of cylinder series YS. Claws can be placed under loads with minimum clearance.

When operating lifting claws, the following aspects have to be considered:

The hydraulic cylinders need to be able to support themselves against the load. The max. force of the cylinder is reduced by 50%.

#### Piston plates

Piston plates can be screwed into the piston thread of cylinder series YS. They reduce the surface pressure and prevent the pistons from sinking into the ground. Also when using a piston plate in connection with a lifting claw the cylinder must be supported against the load.

#### Base adaptors and extension tubes

Extension tubes are mounted onto the bottom of cylinders series YS by means of the base adaptor and two hexagon socket screws (screws are included with the base adaptor). The use of extension tubes adds to the versatility of the standard cylinders.

#### Load-spreading plates

These load-spreading plates are recommended when slim cylinders are used for lifting operations. They prevent the cylinders from falling over and sinking into the ground. Robust steel design with carrying handle.



AYS-101  
151  
231



Straightening of a container box by use of a hydraulic cylinder YS-10/100, extension tube AYS-106, base adaptor AYS-103 and electric power pump PY-04/2/5/2 M.



Lifting of a container by use of an hydraulic cylinder YS-23/160, lifting claw AYS-23 and piston plate AYS-232 powered by a two-stage hand pump HPS-2/2 with base frame.

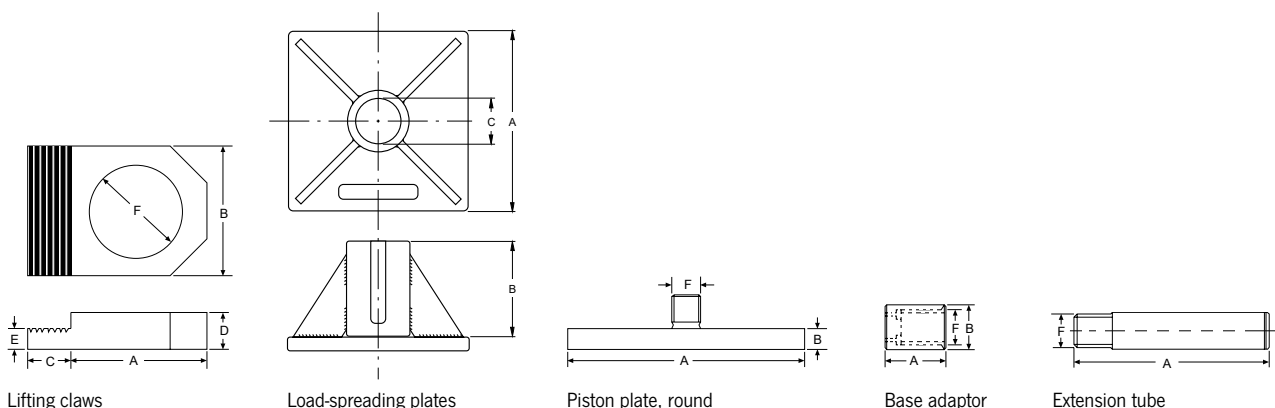
## Technical data AYS

Model	Art.-No.	Description	Suitable for cylinder	Weight kg
AYS-10	N14500303	Lifting claw, permissible capacity 5 t	YS-10/...	0.9
AYS-15	N14500304	Lifting claw, permissible capacity 8 t	YS-15/...	1.3
AYS-23	N14500311	Lifting claw, permissible capacity 12 t	YS-23/...	3.8
AYS-53	N14500672	Base adaptor, 5 t	YS-5/...	0.5
AYS-54	N14500673	Extension tube 125 mm, 5 t	YS-5/...	0.9
AYS-55	N14500674	Extension tube 250 mm, 5 t	YS-5/...	1.5
AYS-56	N14500675	Extension tube 500 mm, 5 t	YS-5/...	2.8
AYS-101	N14500678	Load-spreading plate 10 t	YS-10/...	10.5
AYS-102	N14500324	Piston plate, round	YS-10/...	1.5
AYS-103	N14500336	Base adaptor, 10 t	YS-10/...	0.7
AYS-104	N14500337	Extension tube 125 mm, 10 t	YS-10/...	1.2
AYS-105	N14500338	Extension tube 250 mm, 10 t	YS-10/...	2.2
AYS-106	N14500339	Extension tube 500 mm, 10 t	YS-10/...	3.9
AYS-107	N14500340	Extension tube 750 mm, 10 t	YS-10/...	5.9
AYS-151	N14500681	Load-spreading plate 15 t	YS-15/...	10.5
AYS-152	N14500325	Piston plate, round	YS-15/...	1.8
AYS-153	N14500506	Base adaptor, 15 t	YS-15/...	0.9
AYS-154	N14500507	Extension tube 125 mm, 15 t	YS-15/...	1.6
AYS-155	N14500508	Extension tube 250 mm, 15 t	YS-15/...	2.9
AYS-156	N14500509	Extension tube 500 mm, 15 t	YS-15/...	4.9
AYS-157	N14500510	Extension tube 750 mm, 15 t	YS-15/...	7.9
AYS-231	N14500684	Load-spreading plate 23 t	YS-23/...	10.5
AYS-232	N14500326	Piston plate, round	YS-23/...	2.2

## Dimensions AYS

Model	AYS-10	AYS-15	AYS-23	AYS-53	AYS-54	AYS-55	AYS-56	AYS-101	AYS-102	AYS-103	AYS-104	AYS-105
A, mm	90	110	125	53	125	250	500	230	140	58	125	250
B, mm	90	110	125	50	-	-	-	120	12	60	-	-
C, mm	30	30	30	-	-	-	-	58	-	-	-	-
D, mm	29	34	40	-	-	-	-	-	-	-	-	-
E, mm	22	25	35	-	-	-	-	-	-	-	-	-
F, mm	M57 x 1.5	M67 x 1.5	M85 x 2	M42 x 1.5	M42 x 1.5	M42 x 1.5	M42 x 1.5	-	M27 x 2	M50 x 2	M50 x 2	M50 x 2

Model	AYS-106	AYS-107	AYS-151	AYS-152	AYS-153	AYS-154	AYS-155	AYS-156	AYS-157	AYS-231	AYS-232
A, mm	500	750	230	140	70	125	250	500	750	230	160
B, mm	-	-	120	12	73	-	-	-	-	120	15
C, mm	-	-	68	-	-	-	-	-	-	86	-
D, mm	-	-	-	-	-	-	-	-	-	-	-
E, mm	-	-	-	-	-	-	-	-	-	-	-
F, mm	M50 x 2	M50 x 2	-	M33 x 2	M60 x 2	M60 x 2	M60 x 2	M60 x 2	M60 x 2	-	M40 x 2





## AYP

### Threaded flanges

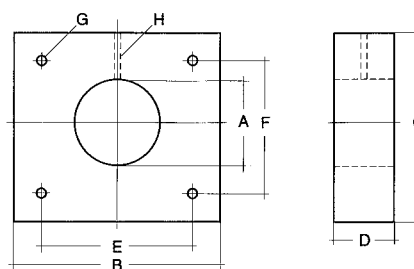
In case hydraulic cylinders have to be inserted into fixtures, press frames or similar devices, these steel flanges can be very handy. Material: weldable steel.

#### Technical data AYP

Model	Art.-No.	Suitable for cylinder	Weight kg
AYP-1010	N13700670	YS-10/...	9.7
AYP-1510	N13700671	YS-15/... and YH-10/...	12.6
AYP-2310	N13700672	YS-23/... and YH-20/...	12.1
AYP-5010	N13701058	YS-50/... and YH-50/...	19.6
AYP-10010	N13701059	YS-100/... and YH-100/...	46.0

#### Dimensions AYP

Model	AYP-1010	AYP-1510	AYP-2310	AYP-5010	AYP-10010
A, mm	M57 x 1.5	M67 x 1.5	M85 x 2	M125 x 2	M180 x 3
B, mm	220	220	220	250	330
C, mm	200	200	200	250	330
D, mm	30	40	40	50	70
E, mm	120	120	120	225	300
F, mm	150	150	150	225	300
G, mm	M12	M12	M12	Ø 13.5	Ø 17.5
H, mm	M8	M8	M8	M8	M8



AYP

## AYH

### Clevis eye mountings

Clevis eye mountings are screwed onto the piston and bottom of the hydraulic cylinder whenever mounting conditions require a pivoting of the cylinder.



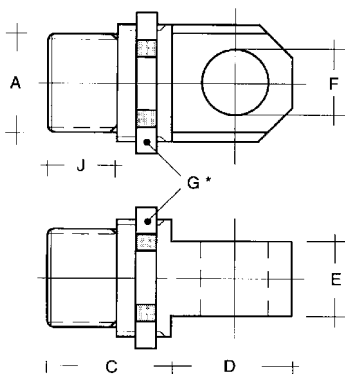
### Technical data AYH

Model	Art.-No.	Suitable for cylinder	Suitable for	Weight kg
AYH-5-1	N14500808	YH-5/30, YH-5/80, YH-5/150	Cylinder base	0.3
AYH-5-2	N14500809	YH-5/30, YH-5/80, YH-5/150	Piston	0.3
AYH-10-1	N14500810	YH-10/30, YH-10/80, YH-10/150, YH-10/250	Cylinder base	0.6
AYH-10-2	N14500811	YH-10/30, YH-10/80, YH-10/150, YH-10/250	Piston	0.6
AYH-20-1	N14500812	YH-20/150, YH-20/250	Cylinder base	2.1
AYH-20-2	N14500813	YH-20/150, YH-20/250	Piston	2.1

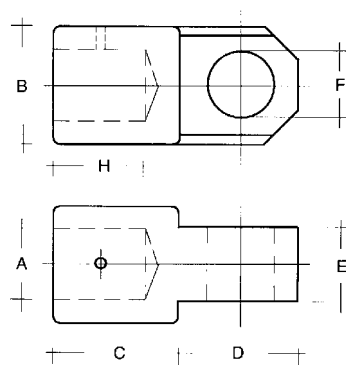
### Dimensions AYH

Model	AYH-5-1	AYH-5-2	AYH-10-1	AYH-10-2	AYH-20-1	AYH-20-2
A, mm	M27 x 2	M18 x 1.5	M36 x 2	M27 x 2	M45 x 2	M36 x 2
B, mm	-	35	-	40	-	70
C, mm	35	35	38	38	50	50
D, mm	35	35	42	42	65	65
E, mm	15	15	25	25	35	35
F, mm	16	16	20	20	30	30
G <sup>1</sup> , mm	M35 x 1.5	-	M40 x 1.5	-	M70 x 2	-
H, mm	-	-	-	21	-	24
J, mm	18	-	21	-	23	-

<sup>1</sup>G = retainer nut according to DIN 981



AYH-...-1 for cylinder base



AYH-...-2 for piston