



# YUCI HYDRAULIC

**YUCI SERIES HYDRAULIC CYLINDER (ACCUMULATOR)**

Where there are hydraulic transmissions

Where there are YUCI products

## Table of Contents

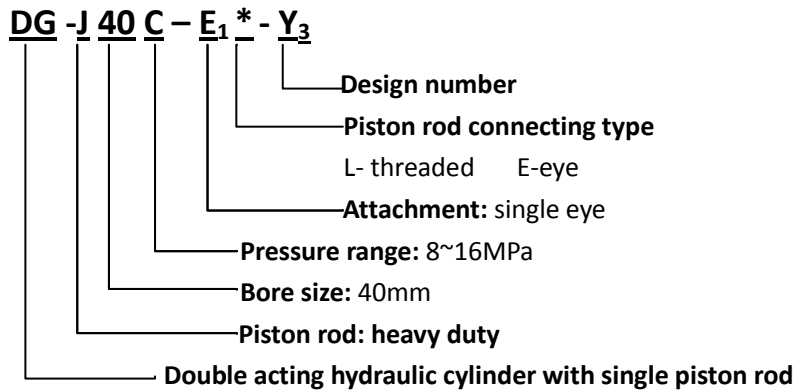
DG Hydraulic Cylinders for Vehicle	3
HSG*01 Series Hydraulic Cylinder	4
Y-HGI Series Cylinders	6
CD250/CG250 CD350/CG350 Heavy Duty	10
ZL 30 Hydraulic Cylinder for Loader	13
Hydraulic Cylinder for ZL 50 Loader	13
Hydraulic Cylinder for Dumping Car	13
HXQ Piston Type Accumulator	14



**Note: The all details of the products including drawing and efficiency curve, please contact with us.**

## YUCI SERIES HYDRAULIC CYLINDER (ACCUMULATOR)

### DG Hydraulic Cylinders for Vehicle



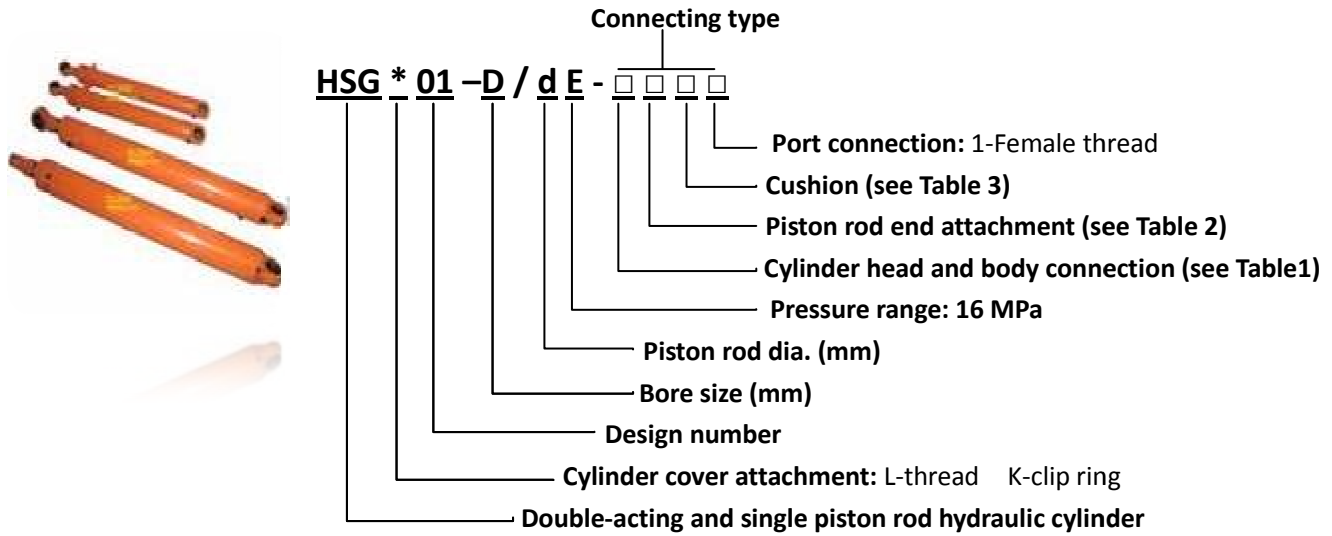
3

This is a double-acting hydraulic cylinder with single piston rod. Operating pressure is 16MPa, bore from 40~200mm, stroke ≤ 2000mm.

#### Technical Date

Model	Bore size (mm)	Piston area(cm <sup>2</sup> )		Thrust(N) 16MPa	Pull 16MPa	Max. stroke(mm)
		Piston side	Rod end side			
DG-J40C-E <sub>4</sub> *	40	12.57	8.63	20160	13800	1200
DG-J50C-E <sub>4</sub> *	50	19.64	13.48	31410	21560	1200
DG-J63C-E <sub>4</sub> *	63	31.17	21.17	49870	33870	1600
DG-J80C-E <sub>4</sub> *	80	50.27	34.27	80430	54980	1600
DG-J90C-E <sub>4</sub> *	90	63.62	43.98	101790	70360	2000
DG-J100C-E <sub>4</sub> *	100	78.54	53.91	125660	86260	2000
DG-J110C-E <sub>4</sub> *	110	94.99	63.38	151980	101410	2000
DG-J125C-E <sub>4</sub> *	125	122.72	83.13	196350	133010	2000
DG-J140C-E <sub>4</sub> *	140	153.86	103.62	246300	165870	2000
DG-J150C-E <sub>4</sub> *	150	176.72	119.97	282750	191940	2000
DG-J160C-E <sub>4</sub> *	160	200.96	136.38	321540	218210	2000
DG-J180C-E <sub>4</sub> *	180	254.34	175.84	406940	281340	2000
DG-J200C-E <sub>4</sub> *	200	314.16	219.23	502660	350770	2000

## HSG\*01 Series Hydraulic Cylinder



HSG\*01 series cylinder is a double-acting and single rod cylinder which piston rod driven by pressure oil move in two opposite direction and enable other moving parts reciprocating.

### Technical Date

Model	Normal pres. (MPa)	Bore size D (mm)	Velocity ratio						Min. stroke of non-trunnion attachment cylinder S (mm)
			1.33		1.46		2		
			Rod dia. d (mm)	Max. stroke S (mm)	Rod dia. d (mm)	Max. stroke S (mm)	Rod dia. d (mm)	Max. stroke S (mm)	
HSG*01-40/dE	16	40	20	320	22	400	25	480	
HSG*01-50/dE		50	25	400	28	500	32	600	
HSG*01-63/dE		63	32	500	35	630	45	750	
HSG*01-80/dE		80	40	640	45	800	55	950	
HSG*01-80/dE		80	40	640	45	800	/	/	30
HSG*01-90/dE		90	45	720	50	900	63	1080	40
HSG*01-100/dE		100	50	800	55	1000	70	1200	40
HSG*01-110/dE		110	55	880	63	1100	80	1320	40
HSG*01-125/dE		125	63	1000	70	1250	90	1500	35
HSG*01-140/dE		140	70	1120	80	1400	100	1680	45
HSG*01-150/dE		150	75	1200	85	1500	105	1800	50
HSG*01-160/dE		160	80	1280	90	1600	110	1900	40
HSG*01-180/dE		180	90	1450	100	1800	125	2150	45
HSG*01-200/dE		200	100	1600	110	2000	140	2400	45
HSG*01-220/dE		220	110	1760	125	2200	160	2640	50
HSG*01-250/dE		250	125	2000	140	2500	180	3000	55

★Cylinder Head and Body Attachment

Table 1

Order	Attachment	Remark
1	Eye attachment with bush	For cylinder $D \geq \Phi 80$
2	Eye attachment with oscillating bearing	
3	Trunnion attachment	
4	Front flange attachment	
5	Mid-body flange attachment	

★Piston Rod End Attachments

Table 2

Order	Attachment	Remark
1	Rod end male thread attachment	
2	Rod end female thread attachment	For bore $D \geq \Phi 63$
3	Rod end male thread and eye with bush	
4	Rod end female thread and eye with bush	For bore $D \geq \Phi 63$
5	Rod end male thread and eye with oscillating bearing	
6	Rod end female thread and eye with bush	For bore $D \geq \Phi 63$
7	Integral rod end eye with bush	
8	Integral rod end eye with oscillating bearing	Only for $\Phi 40$ and $\Phi 50$ cylinders

★Cushioning

Table 3

Order	Location of cushioning	Remark
0	Without cushioning	Without cushioning for bores $\Phi 40$ , $\Phi 50$ and $\Phi 63$ At velocity ratio $\varphi=2$ , only cylinder head has cushioning
1	At both ends of piston rod	
2	At head of cylinder	
3	At end of piston rod	

Note: 1. Velocity  $\varphi$  ratio is ratio of effective area of piston to that of rod chamber

2. Max. stroke:

when  $\varphi=1.33$ ,  $S=8D$ (bore size)

when  $\varphi=1.46$ ,  $S=10D$ (bore size)

when  $\varphi=2$ ,  $S=12D$ (bore size)

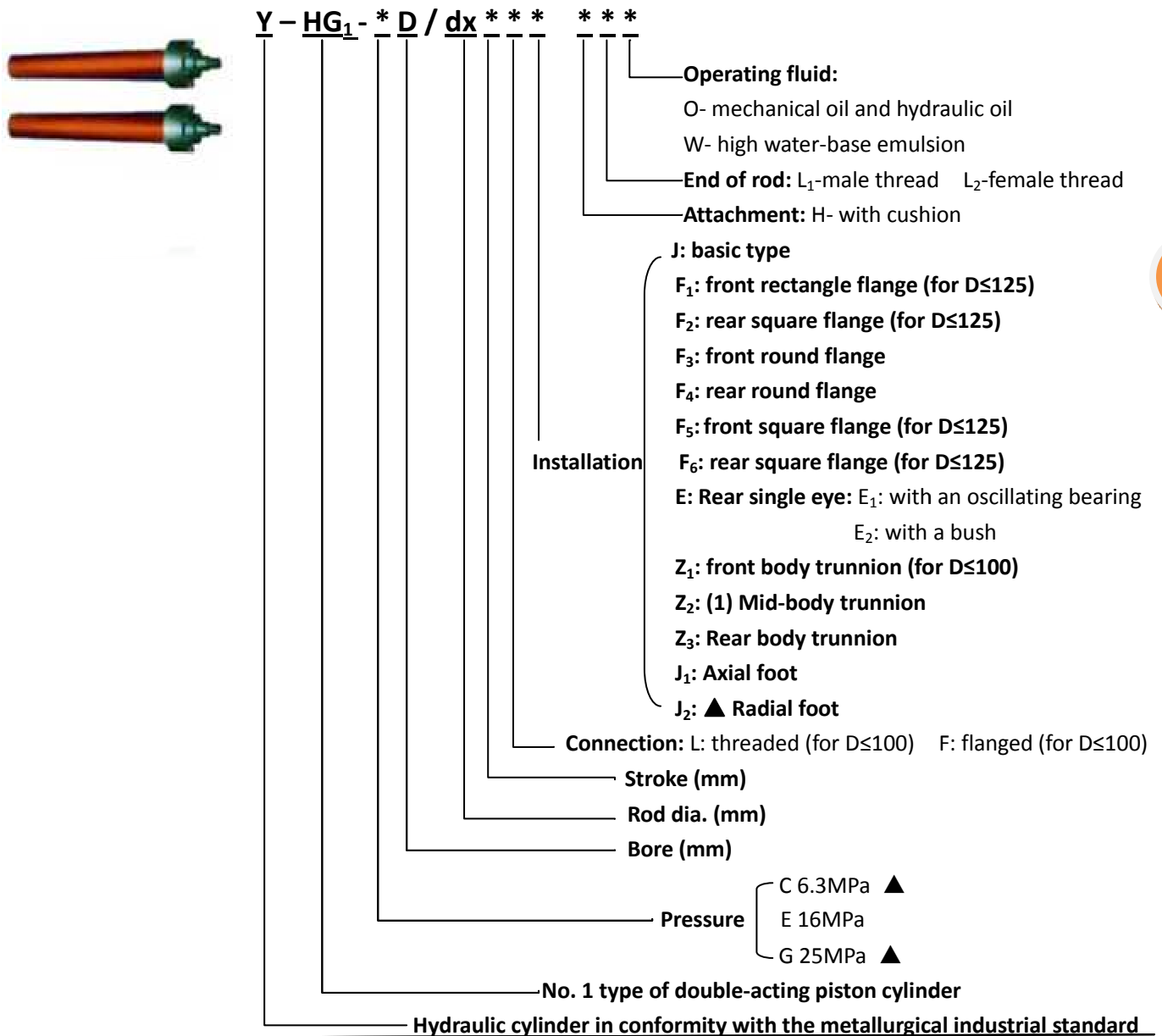
3. For bore size of  $\Phi 63$ ,  $\Phi 80$ ,  $\Phi 100$ ,  $\Phi 125$ ,  $\Phi 150$  and  $\Phi 160$ , when velocity ratio  $\varphi 1.46$ , cylinder cover adopts clip ring attachment.

4. If  $S >$  max. stroke specified in Table is needed, contact with us.

5. For min. stroke of cylinder with trunnion attachment, see Table 5,6,7 and 8.

6.  $\Phi 250 \sim \Phi 700$  cylinder can be available

Y-HGI Series Cylinders



This series cylinder is double-acting piston type hydraulic actuator which can push its piston rod to move in both directions so that its piston will drive other working parts to reciprocate in line. With features, as well as integral damper and air bleeder, it is suitable for metallurgical industry and is in conformity with the specification on mounting and connecting ISO 6020/1 – 1981.

**Order Procedure:**

1. If the cylinders of 6.3~16MPa are needed, please fill "E" in your order
2. Mounting dimension are according to the codes in the table except that of mid-body trunnion attachment type; For connecting dimensions, refer to tables 5~17
3. "H" code represents types with cushioning; omit without cushioning
4. For stroke, refer to table 4
5. Specify your special requirements for operating fluid, temperature, test, painting and packing.
6. End rod eye should be separately ordered.

**Technical Date:**
**Table 1: Bore diameter D and rod diameter d series.**

$\begin{matrix} D \\ \Phi d \end{matrix}$	40*	50*	63*	80*	90	100*	110	125*	140	150	160*	180	200*	220	250*	280	320*
1.46	22*	28*	36*	45*	50	56*	63	70*	80	85	90*	100	110*	125	140*	160	180*
2	28*	36	45*	56*	63	70*	80	90*	100	105	110*	125	140*	160	180*	200	220*

Note: "\*" indicates bore dia. D and rod dia. d in conformity with that specified ISO 6020/1 standard.

**Table 2: Port series.**

(mm)

Bore dia.	40	50	63	80	90	100	110	125	
Nominal size of port	10	10	15	15	15	15	20	20	
Thread for port	M18×1.5	M18×1.5	M27×2	M27×2	M27×2	M33×2	M33×2	M33×2	
Bore dia.	140	150	160	180	200	220	250	280	320
Nominal size of port	25	25	25	32	32	32	40	40	40
Thread for port	M42×2	M42×2	M42×2	M48×2	M48×2	M48×2			

Note: 1. Port dia. is determined basing on the highest flow velocity ( $V_0=5\text{mm/sec}$ ) at the port.

2. If bore  $D \geq 250\text{mm}$ , flange for port should be split type.

Max. permissible stroke S of the cylinder at rated pressure for different installation types (see Table 3)

S<sub>1</sub>-front flange or axial foot attachment, rod end with eye

S<sub>2</sub>- front flange or axial foot attachment, rod end without eye

S<sub>3</sub>-rear flange attachment and rod end with eye

S<sub>4</sub>- rear flange attachment and rod end without eye

S<sub>5</sub>-rear trunnion or rear single eye attachment and rod end with eye

S<sub>6</sub>-front trunnion attachment and rod end with eye

S<sub>7</sub>-mid-body trunnion and rod end with eyes.

**Table 3: Stroke series**

Stroke	25	50	80	100	125	160	200	250	320	400	500
		630	800	1000	1250	1600	2000	2500	3150	4000	5000

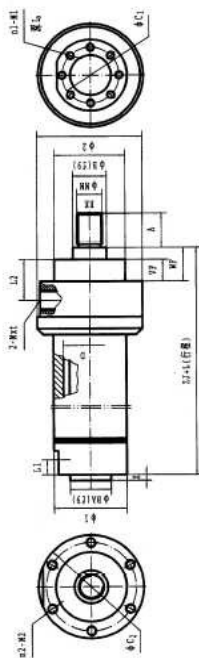
This series is in conformity with ISO 4393

**Table 4: Max. stroke (mm)**

D Bore dia.		40		50		63		80		90		100		110		125			
d Rod dia.		22	28	28	36	36	45	45	56	50	63	56	70	63	80	70	90		
Max. stroke	S <sub>1</sub>	540	960	730	1360	990	1640	1240	1990	1370	2080	1550	2320	1700	2660	1850	2980		
	S <sub>2</sub>	115	260	180	390	260	490	330	600	370	620	420	700	470	800	520	920		
	S <sub>3</sub>	190	420	300	620	430	750	550	920	600	960	680	1070	760	1240	830	1390		
	S <sub>4</sub>	90	170	130	240	180	300	230	360	250	380	280	420	310	480	340	540		
	S <sub>5</sub>	140	290	210	430	290	520	370	640	450	660	470	740	520	860	570	970		
	S <sub>6</sub>	350	650	480	920	560	1120	830	1360	910	1420	1040	1580	1140	1830	1250	2050		
		140		150		160		180		200		220		250		280		320	
		80	100	85	105	90	110	100	125	110	140	125	160	140	180	160	200	280	220
		2150	3130	2280	3160	2330	3210	2560	3610	2780	4120	3240	4660	3590	4860	3810	5210	4600	5800
		620	970	660	990	670	1000	740	1110	800	1270	940	1440	1040	1490	1100	1590	1350	1780
		970	1460	1030	1500	1050	1510	1160	1680	1250	1920	1470	2180	1630	2270	1720	2420	2100	2700
		390	560	410	580	420	590	470	650	510	740	590	840	650	880	690	940	840	1050
		670	1020	720	1040	730	1050	800	1170	870	1340	1020	1520	1130	1580	1190	1690	1460	1800
		1460	2150	1550	2200	1580	2220	1740	2480	1880	2830	2210	3210	2440	3340	2580	3570	3130	3980

Note: Figures in the table are max. strokes calculated depending on their stability and that exceeding these values are non-standard ones which stability should be guaranteed by designers themselves.

Configuration:

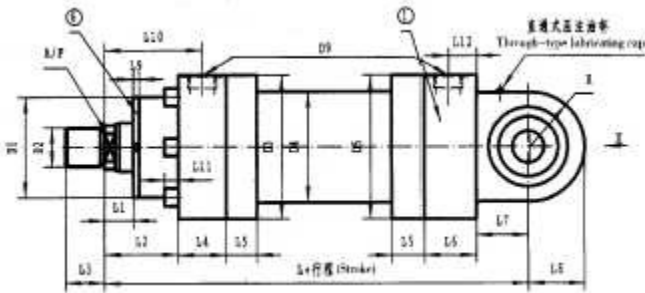








The series are single-acting differential cylinder including 14 bore size and 28 specifications combined depending on 4 velocity ratios. Three types of them, front flange mounting, mid-body trunnion and sub-plate mounting type cylinder can be built as double-rod and double-acting constant speed ones. Together with that with or without cushioning at their both ends, total are 28 specifications and 384 kinds of cylinder. The mounting types and dimensions of this series cylinders are in conformity with ISO 3320 and especially suitable for operating under had working and heavy-loading conditions. They are widely used in steel works, foundry, forging and machine -building industries.



series			Piston dia. (mm)	Piston rod dia. (mm)	Area Ratio $\phi$	
250		350				
√			40	20	1.3:1	=40/20
√		√		28	2:1	=40/28
√			50	28	1.4:1	=50/28
√		√	63	36	2:1	=50/36
√				36	1.4:1	=63/36
			80			
√		√		45	2:1	=63/45
√			100	45	1.4:1	=80/45
√		√	125	56	2:1	=80/56
√				56	1.4:1	=100/56
			140			
√		√		70	2:1	=100/70
√			160	70	1.4:1	=125/70
√		√	180	90	2:1	=125/90
√				90	1.6:1	=140/90
√		√	200	100	2:1	=140/100
√			220	100	1.6:1	=160/100
√		√		110	2:1	=160/110
√			250	110	1.6:1	=180/110
√		√		125	2:1	=180/125
√			280	125	1.6:1	=200/125
√		√		140	2:1	=200/140
√			320	140	1.6:1	=220/140
√		√		160	2:1	=220/160
√			350	160	1.6:1	=250/160
√		√		180	2:1	=250/180
√			400	90	1.6:1	=280/180
√		√		200	2:1	=280/200
√			450	200	1.6:1	=320/200
√		√		220	2:1	=320/220

**Technical Data:**

<b>Operating pressure</b>	<b>CD/CG250 series:25    CD/CG350 series:35</b>
<b>Suitable operating fluid</b>	<b>Mineral hydraulic oil, phosphate ester and a water-glycol fluid</b>
<b>Operating temperature</b>	<b>-30 ~ +100</b>
<b>Viscosity of operating fluid</b>	<b>2.8~380</b>
<b>Running speed</b>	<b>0.5(if special seals are used, it could be 15m/s)</b>
<b>Sealing</b>	<b>Dynamic seal: V seal for type A cylinder at high speed and pressure; sliding seal for type T cylinder at low speed and pressure. Static seal: O ring made in China</b>
<b>Connecting type of head and body as well as air bleeder</b>	<b>Type A: thread, flange connecting Type B: welded cylinder bottom, threaded cylinder head; with air release plug at end of cylinder.</b>
<b>Thread for oil connections</b>	<b>For ports of all size cylinders, adopt GB metric fine thread and with worth pipe thread of BSP i.e. cylinder pipe thread G of China</b>
<b>Mounting type</b>	<b>Five type, A,B,C,D, E and F</b>
<b>Material of piston rod</b>	<b>High-tensile steel and stainless steel X<sub>22</sub>CrNi17(hard chrome plating surface)</b>

### ZL 30 Hydraulic Cylinder for Loader



These cylinder are mainly used for ZL 30 loaders. Operating pressure: 20MPa.  
 Including for moving arm, for dumping and for steering (right and left). The details contact with us

### Hydraulic Cylinder for ZL 50 Loader



These cylinder are mainly used for ZL 30 loaders. Operating pressure: 20MPa.  
 Including for moving arm, for dumping and for steering. The details contact with us

### Hydraulic Cylinder for Dumping Car

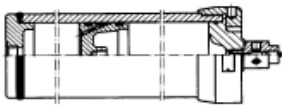
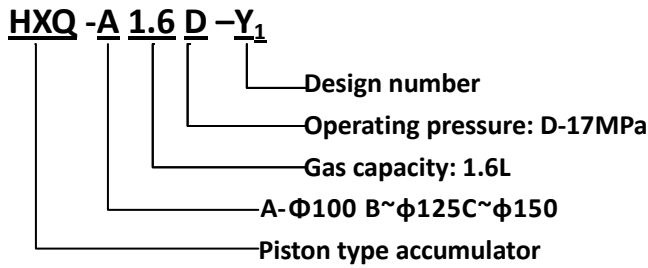


These are mainly used for five or eight Ton dumping –truck and other loading Machines

#### Technical Data of hydraulic cylinder for 8 T dumping-truck

Cylinder bore/piston rod dia.	Operating pressure(MPa)	Operating stroke	Mounting distance(mm)	Push(T)
150/70	16	806	1151	28.3

## HXQ Piston Type Accumulator



HXQ is an separated accumulator in a hydraulic system, which can store energy of the system and release it when it is needed.

Main usage as follows:

1. Stabling system pressure by absorbing pulsation of flow and pressure in the system as well as hydraulic shock;
2. Acting as a storing and making-up device of hydraulic energy, it can supply the pump with oil delivered in short Time when flow of the pump is not enough, or periodically unload the pump as well as enable system actuators timely holding pressure;

A smaller accumulator is needed for the former case, the latter must select a proper size of accumulator according to the amount of make-up oil required.

Piston type accumulator features longer service life, less gas leakage and elimating oxidation of oil.

### Technical Data

Drawing No.	Model	Rated operating pressure(MPa)	Gas capacity (L)	Weight(kg)	Pressure-resistance (MPa)
H100	HXQ-A1.0D-Y <sub>1</sub>	17		18	25
	HXQ-A1.6D-Y <sub>1</sub>		1.6	20	
	HXQ-A2.5D-Y <sub>1</sub>		2.5	24	
H125	HXQ-B4.0D-Y <sub>1</sub>		4.0	44	
	HXQ-B6.3D-Y <sub>1</sub>		6.3	55	
	HXQ-B10D-Y <sub>1</sub>		10	73	
H150	HXQ-C16D-Y <sub>1</sub>		16	126	
	HXQ-C25D-Y <sub>1</sub>		25	173	
	HXQ-C39D-Y <sub>1</sub>		39	246	