

Ultrahigh-Pressure Hydraulic Booster

Custom-order

Hydraulic Pumps

- Ultrahigh-pressure technologies are not just used in the laboratory. High-pressure science and industry have developed remarkably, and the technologies are now used directly in industry. They play an active role in new fields such as artificial composition of diamonds, plasticity processing of metals and cutting of materials which have previously been considered impossible to process. The Ultrahigh-Pressure Hydraulic Booster uses a Riken hydraulic pump on the primary side to increase the secondary side pressure by the area ratio, enabling pressures of up to 2000 MPa to be obtained.
- Please inform us of the required stroke volume, media used, and frequency of use when ordering.
- The pressure media can be discharged continuously by reciprocating the piston repeatedly. In this case, please indicate the discharge volume. We will provide a hydraulic circuit diagram according to the specifications required.
- There are diverse fields of application and we can manufacture various custom-orders.

Description of the type

IRE - 15K - 20


Ultrahigh-pressure booster

Stroke volume (cm³)


Pressure

- 3 : 300MPa
- 5 : 500MPa
- 7 : 700MPa
- 10 : 1000MPa
- 15 : 1500MPa
- 20 : 2000MPa


IRE - 12K



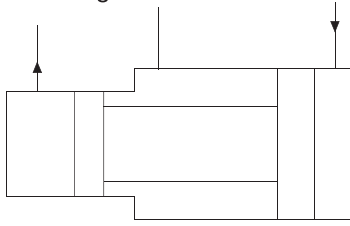
1500 MPa ultrahigh-pressure hydraulic unit



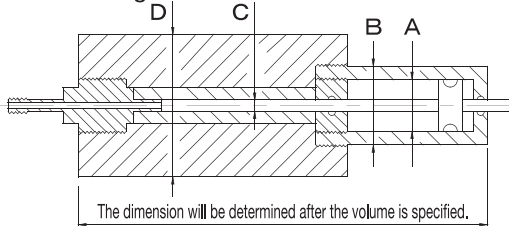
IRE - 2K - 180



Hydraulic circuit diagram



Structural drawing



■ Specification

Type	Pressure (MPa)		Maximum stroke volume on the secondary side (cm ³)	Maximum stroke (mm)	Pressure area		Piston diameter		Outside diameter of the effective area		Standard pressure media
	Primary side	Secondary side			Primary side (cm ³)	Secondary side (cm ³)	Primary side (φAmm)	Secondary side (φCmm)	Primary side (φBmm)	Secondary side (φDmm)	
IRE-3K-20	41	300	20	100	14.52	2.01	43.00	16	57	75	Hydraulic oil
IRE-3K-46	34		46	120	33.18	3.80	65.00	22	86	105	
IRE-3K-182	47		182	200	57.81	9.08	85.79	34	113	165	
IRE-3K-589	40		589	300	146.55	19.63	136.60	50	170	245	
IRE-3K-848	37		848	300	227.00	28.27	170.00	60	225	305	
IRE-3K-2356	54		2356	300	433.74	78.54	235.00	100	305	440	
IRE-5K-20	42	500	20	100	23.76	2.01	55.00	16	75	90	Hydraulic oil Castor oil + Methanol
IRE-5K-46	43		46	120	44.18	3.80	75.00	22	98	165	
IRE-5K-182	44		182	200	102.70	9.08	114.35	34	150	245	
IRE-5K-589	43		589	300	227.00	19.63	170.00	50	225	350	
IRE-5K-848	49		848	300	285.26	28.27	190.58	60	240	440	
IRE-7K-20	42	700	20	100	33.18	2.01	65.00	16	86	120	Castor oil + Methanol
IRE-7K-46	46		46	120	57.81	3.80	85.79	22	113	190	
IRE-7K-182	43		182	200	146.55	9.08	136.60	34	170	260	
IRE-7K-589	48		589	300	285.26	19.63	190.58	50	240	440	
IRE-10K-20	45	1000	20	100	44.18	2.01	75.00	16	98	150	Castor oil + Methanol
IRE-10K-46	53		46	120	71.63	3.80	95.50	22	127	245	
IRE-10K-182	31		182	200	285.26	9.08	190.58	34	240	392	
IRE-15K-20	53	1500	20	100	56.75	2.01	85.00	16	113	170	