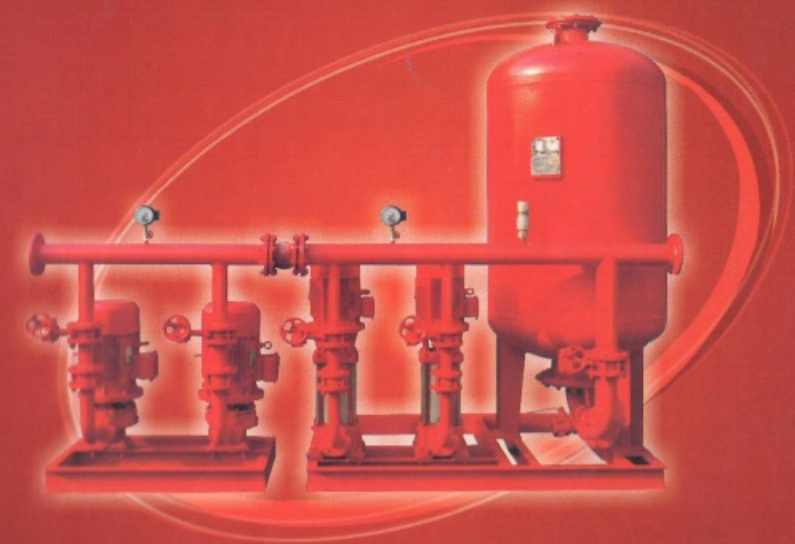


XQ系列
消防气压给水设备
Fire Fighting Pneumatic Water Supply Equipment

Use Specification | 使用说明书



浙江扬子江泵业有限公司
ZHEJIANG YANGZIJIANG PUMP CO.,LTD.



使用该产品前，请仔细阅读说明书！

目录 CONTENTS

概述 Outline	1
产品特点 Characteristics	1
型号意义 Model meaning	2
环境条件 Environmental conditions	2
工作原理 Working principle	2
选型说明 Model selection	3
性能参数 Performance parameters	4-17
外形及安装尺寸图及尺寸表 Figure and installing dimensions drawing and dimensions table	18-26
开箱及检查 Unpack and check	27
吊运和贮存 Lifting and storing	27
安装调整 Installation and adjustment	28
使用与操作 Use and operation	29
维护与保养 Maintenance	30
故障原因及排除方法 Failures causes and troubleshooting	31-32

<<< 概述 >>>

高层建筑消防供水一般采用高位水箱来弥补自来水管网供水压力不足，但往往最不利点消火栓所需水压约为220kPa，显然用加高水箱的办法来满足消防所需水压不太可能，用气压给水设备就可以满足要求。我公司生产的XQ系列消防气压给水设备是以GB50015《建筑给水排水设计规范》、GB50045《高层民用建筑设计防火规范》、GB50084《自动喷水灭火系统设计规范》为设计依据；以GA30.1《固定消防给水设备的性能要求和试验方法第1部分：消防气压给水设备》为标准生产的固定灭火装置。该装置由气压罐、稳压泵、消防泵、电控柜及仪表、阀门、管路、设备底座等组成，适用于一切需要增高压力的消防给水系统。

<<< 产品特点 >>>

1、XQ系列产品采用隔膜气压罐，结构简单、效率高、一次充气可长期使用。气压罐属第一类压力容器，我公司配置的气压罐，其设计、制造、压力试验、检验与验收等均符合GB150《钢制压力容器》的规定；

2、XQ系列产品可配XBD-L型单级离心泵，也可配XBD-DL型多级离心泵。XBD-L型单级离心泵结构简单、造价低；XBD-DL型多级离心泵运行平稳，扬程高。我公司生产的XBD-L单级离心泵和XBD-DL型多级离心泵均通过了国家消防装备质量监督检验中心的型式检验，质量符合GB6245《消防泵》；

3、XQ系列产品具有先进的多功能编程控制、消防泵定时软起动巡检等功能，可接收多种消防信号并可与消防中心联网；

4、XQ系列产品设有两路电源接口，具有双电源自动切换功能；

5、XQ系列产品使用的配件，经过了诸多生产厂家的筛选，具有可靠的产品质量保证，标准产品中的关键零部件，如：电机、水泵轴承、可编程控制器、断路器、接触器、继电器、小型气压罐等还采用了国际、国内名牌产品；

6、XQ系列产品体积小、结构紧凑、不受供水场合限制，可设置在任何高度向消防管网供水。

<<< Outline >>>

The insufficient water supply pressure from the tap water pipe-net is generally compensated by means of a highly positioned water tank for the fire fighting water supply to high buildings, but this still leaves a problem that the necessary water pressure for the hydrant at the most adverse point is about 220KPa. Use of a pneumatic water supply equipment can meet with the requirement. XQ series fire fighting pneumatic water supply equipment made in this Co. is a fixed extinguisher designed according to GB50015《Standard in the design of buildings' water supply and drainage》, GB50045《Fire fighting standard in the design of high civil buildings》and GB50084《Standard in the design of an automatic water showering extinguishing system》and made according to GA30.1 (The first portion: fire fighting pneumatic water supply equipment in《Performance requirement and test method for fixed fire fighting water supply equipments》) and consists of a pneumatic tank, a pressure stabilizing pump, a fire fighting pump, an electric control cabinet and meters, valves, pipelines, an equipment foundation etc. and is applicable for all the boosting required fire fighting water supply systems.

<<< Characteristics >>>

1.XQ series product uses a pneumatic tank and is of a simple structure and a high efficiency and long time workable with one air-filling. The pneumatic tank belongs to the pressure vessel of the first category and, for the one made in this Co., the design, manufacture, pressure test, inspection and acceptance of it all comply with the provisions set forth in GB 150《Steel-made pressure vessel》.

2.XQ series product can be fitted with either model XBD-L single stage centrifugal pump or model XBD-DL multi-stage one. The former is simple in structure and low in cost; and the latter moves stably and has a high head. These two pumps made in this Co. have passed the model inspection by the National Fire Fighting Equipment Quality Supervision & Inspection Center, with the quality complying with GB6245《Fire Fighting Pumps》.

3.XQ series product holds advanced multi-function programmed control, fire fighting pump timing soft-start tour-inspection etc. functions and can receive multiple fire fighting signals and be in-line with a fire fighting center.

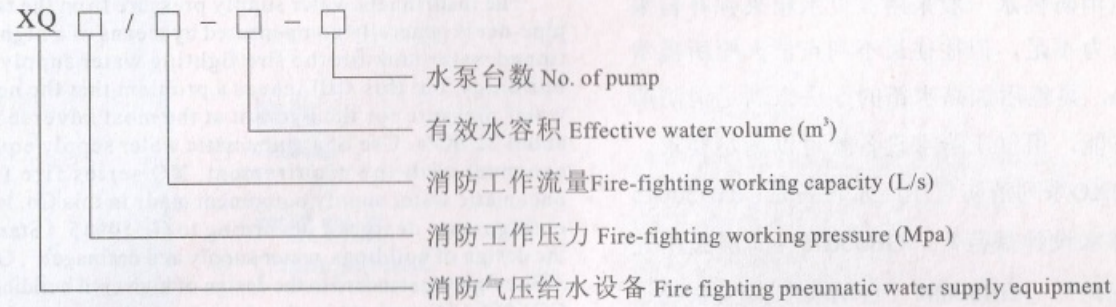
4.XQ series product is set with two power interfaces, automatically changeable to each other.

5.The accessories used with XQ series product, as carefully selected by the manufacturers, are guaranteed on their reliable quality and the key parts in the standard product are those of world and domestic well-know brands, such as: motor, pump bearing, PLC, circuit breaker, contactor, relay, miniature pneumatic tank and so on.

6.XQ series product is small in volume, compact in structure, unlimited to the water supply occasion and settable at any height to supply water to a fire fighting pipe-net.

XQ系列消防气压给水设备

<<< 型号意义 Model meaning >>>



<<< 环境条件 Environmental conditions >>>

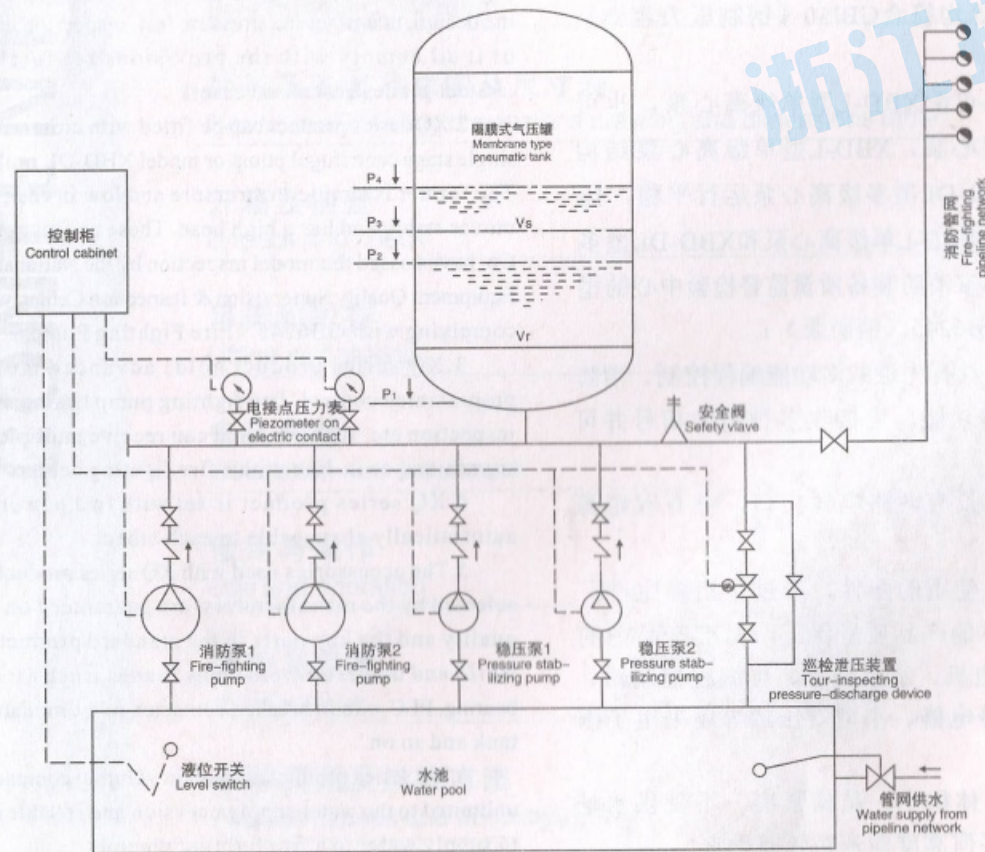
XQ系列产品适合在下列环境中工作:

1. 环境温度: 5~40℃;
2. 空气相对湿度: ≤85%(20±5℃时);
3. 介质温度: 4~70℃;
4. 供电电压: 380V(+5%、-10%)

XQ series products are suitable to work in the following environmental conditions:

1. Ambient temperature: 5-40℃;
2. RH of air: ~85%(20+5℃);
3. Medium temperature: 4-70℃;
4. Power voltage: 380V(+5%, -10%)

<<< 工作原理 Working principle >>>



XQ系列消防气压给水设备

稳压泵工作时将水送至给水管网, 多余的水进入气压罐后, 水室扩大、气室缩小、压力随之升高, 当压力升至稳压上限 P_4 时, 水泵停转, 此时罐内被压缩气体的压力将贮存的水送入管网, 气压罐的水室缩小、气室扩大, 压力随之下降, 当压力降至稳压下限 P_3 时, 稳压泵又重新启动。如此周而复始, 稳压设备不断运行。当发生火情时, 消火栓或喷头开启, 稳压泵不能满足保压要求, 压力继续下降, 当压力降至消防工作压力 P_2 时(或其它消防信号反馈)消防主泵自动启动。

When the pressure stabilizing pump works to feed water to the water supply pipeline network and the surplus water goes into the pneumatic tank, the water chamber expands, the air chamber reduces and the pressure rises correspondingly. When it rises to the upper limit of pressure stabilization P_4 , the water pump stops, the pressure of the compressed air inside of the tank makes the stored water fed into the pipeline network, the water chamber reduces, the air chamber expands and the pressure lowers correspondingly, when it lowers to the lower limit of pressure stabilization P_3 , the pressure stabilizing pump starts again. In this repeated way, the pressure stabilizing equipment continues to work. When fire happens and fire hydrant or with the demand for pressure keeping, the pressure goes on lowering and, when it lowers to the maximum working pressure P_2 (or other fire-fighting signal feedback), the main fire-fighting pump starts automatically.

<<< 选型说明 Model selection >>>

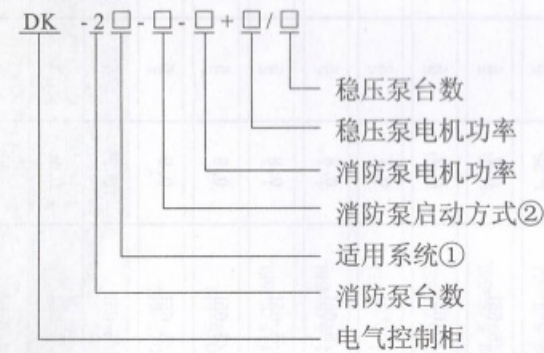
根据消防工作压力、消防工作流量(工作压力由消防管网最不利点所需静水压力推算而来, 所需流量由建筑物性质决定, 此两项数据应由建筑设计单位提供)来选择性能点最接近的水泵。

Select the water pump most close to the performance point according to the fire fighting operation pressure and flow (the pressure is estimated from the required static water pressure at the most adverse point on the fire fighting pipe-net and the flow is decided upon the building nature, both data shall be provided by the building designer).

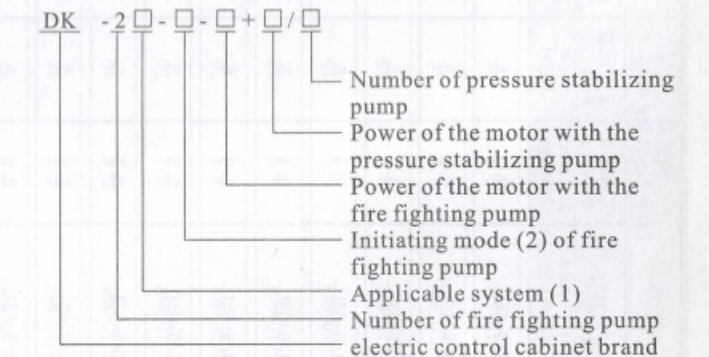
气压罐型号可根据所需有效水容积和设备设定工作压力来确定, 选用时容积宜偏大一点。

The model of the pneumatic tank is decided upon the desired effective water volume and the set operation pressure with the equipment, with the volume a little bit bigger.

电气控制柜推荐使用型号:



Recommended model of the electric control cabinet:



备注:

- ①FS-消火栓系统, FP-喷淋系统;
- ②无标记为直接启动(适用于15KW以下电机), T-自耦降压启动, Y-星三角启动, R-软启动。

Remark:

- (1) FS-hydrant system, FP-showering system
- (2) Non-mark means the direct initiation (applicable for the motor below 15KW), T--auto-coupled reduced-voltage initiation, Y--star-delta initiation, Rsoft initiation.

产品选型、配置时注意应遵循各地方消防规范和消防验收要求, 产品有特殊要求(消防水箱、进水总管、Y型过滤器、材质要求、控制方式等), 请在订货合同中注明。

Pay attention to, at the product model selection and configuration, the local fire fighting standard and acceptance requirements and, in case of special requirements with the product (fire fighting water tank, main water-in pipe, Y-type filter, materials, control mode etc.), please make notes in the order contract.

XQ系列消防气压给水设备

性能参数 Performance parameters

序号 No.	型号 Model	设计参数 Design parameters (MPa)	消防泵 Fire-fighting pump			稳压泵 Pressure stabilizing pump			隔膜气压罐 Diaphragm pneumatic tank						
			规格型号 Model specs	工作压力 Working pressure (MPa)	工作流量 Working flow (L/s)	功率 Power (kw)	台数 No. of pump	规格型号 Model specs	工作压力 Working pressure (MPa)	工作流量 Working flow (L/s)	功率 Power (kw)	台数 No. of pump	规格型号 Model specs	有效水容积 Effective water volume (m³)	只数 No. of pieces
1	XQ0.30/5-0.15-2	P=0.33 P=0.28 P=0.25 P=0.20	XBD3/5-65L	0.3	5	4	2	25GDL4-11×3	0.33	1.11	1.1	2	ML800*0.6	0.15	1
2	XQ0.30/5-0.30-2	P=0.33 P=0.25 P=0.28 P=0.19	XBD3/5-65L	0.3	5	4	2	25GDL4-11×3	0.33	1.11	1.1	2	ML1000*0.6	0.3	1
3	XQ0.30/5-0.45-2	P=0.33 P=0.28 P=0.25 P=0.20	XBD3/5-65L	0.3	5	4	2	25GDL4-11×3	0.33	1.11	1.1	2	ML1200*0.6	0.45	1
4	XQ0.40/5-0.15-2	P=0.44 P=0.39 P=0.36 P=0.29	XBD4/5-65L	0.4	5	7.5	2	25GDL4-11×4	0.44	1.11	1.5	2	ML800*0.6	0.15	1
5	XQ0.40/5-0.30-2	P=0.44 P=0.39 P=0.36 P=0.27	XBD4/5-65L	0.4	5	7.5	2	25GDL4-11×4	0.44	1.11	1.5	2	ML1000*0.6	0.3	1
6	XQ0.40/5-0.45-2	P=0.44 P=0.39 P=0.36 P=0.29	XBD4/5-65L	0.4	5	7.5	2	25GDL4-11×4	0.44	1.11	1.5	2	ML1200*0.6	0.45	1
7	XQ0.50/5-0.15-2	P=0.55 P=0.50 P=0.47 P=0.38	XBD5/5-65L	0.5	5	7.5	2	25GDL4-11×5	0.55	1.11	2.2	2	ML800*0.6	0.15	1
8	XQ0.50/5-0.30-2	P=0.55 P=0.50 P=0.47 P=0.36	XBD5/5-65L	0.5	5	7.5	2	25GDL4-11×5	0.55	1.11	2.2	2	ML1000*0.6	0.3	1
9	XQ0.50/5-0.45-2	P=0.55 P=0.50 P=0.47 P=0.37	XBD5/5-65L	0.5	5	7.5	2	25GDL4-11×5	0.55	1.11	2.2	2	ML1200*0.6	0.45	1
10	XQ0.60/5-0.15-2	P=0.66 P=0.61 P=0.58 P=0.47	XBD6/5-65L	0.6	5	11	2	25GDL4-11×6	0.66	1.11	3	2	ML800*1.0	0.15	1
11	XQ0.60/5-0.30-2	P=0.66 P=0.61 P=0.58 P=0.44	XBD6/5-65L	0.6	5	11	2	25GDL4-11×6	0.66	1.11	3	2	ML1000*1.0	0.3	1
12	XQ0.60/5-0.45-2	P=0.66 P=0.61 P=0.58 P=0.46	XBD6/5-65L	0.6	5	11	2	25GDL4-11×6	0.66	1.11	3	2	ML+200*1.0	0.45	1
13	XQ0.70/5-0.15-2	P=0.77 P=0.72 P=0.69 P=0.55	XBD7/5-65L	0.7	5	15	2	25GDL4-11×7	0.77	1.11	3	2	ML800*1.0	0.15	1
14	XQ0.70/5-0.30-2	P=0.77 P=0.72 P=0.69 P=0.53	XBD7/5-65L	0.7	5	15	2	25GDL4-11×7	0.77	1.11	3	2	ML1000*1.0	0.3	1
15	XQ0.70/5-0.45-2	P=0.77 P=0.72 P=0.69 P=0.55	XBD7/5-65L	0.7	5	15	2	25GDL4-11×7	0.77	1.11	3	2	ML1200*1.0	0.45	1
16	XQ0.80/5-0.15-2	P=0.88 P=0.83 P=0.80 P=0.62	XBD8/5-65L	0.8	5	15	2	25GDL4-11×8	0.88	1.11	3	2	ML800*1.0	0.15	1
17	XQ0.80/5-0.30-2	P=0.88 P=0.83 P=0.80 P=0.59	XBD8/5-65L	0.8	5	15	2	25GDL4-11×8	0.88	1.11	3	2	ML1000*1.0	0.3	1
18	XQ0.80/5-0.45-2	P=0.88 P=0.83 P=0.80 P=0.61	XBD8/5-65L	0.8	5	15	2	25GDL4-11×8	0.88	1.11	3	2	ML1200*1.0	0.45	1
19	XQ0.90/5-0.15-2	P=0.99 P=0.94 P=0.91 P=0.73	XBD9/5-65L	0.9	5	22	2	25GDL4-11×9	0.99	1.11	3	2	ML800*1.0	0.15	1
20	XQ0.90/5-0.30-2	P=0.99 P=0.94 P=0.91 P=0.69	XBD9/5-65L	0.9	5	22	2	25GDL4-11×9	0.99	1.11	3	2	ML1000*1.0	0.3	1
21	XQ0.90/5-0.45-2	P=0.99 P=0.94 P=0.91 P=0.72	XBD9/5-65L	0.9	5	22	2	25GDL4-11×9	0.99	1.11	3	2	ML1200*1.0	0.45	1
22	XQ1.0/5-0.15-2	P=1.10 P=1.05 P=1.02 P=0.82	XBD10/5-65L	1	5	22	2	25GDL4-11×10	1.1	1.11	4	2	ML800*1.6	0.15	1

XQ系列消防气压给水设备

性能参数 Performance parameters

序号 No.	型号 Model	设计参数 Design parameters (MPa)	消防泵 Fire-fighting pump			稳压泵 Pressure stabilizing pump			隔膜气压罐 Diaphragm pneumatic tank						
			规格型号 Model specs	工作压力 Working pressure (MPa)	工作流量 Working flow (L/s)	功率 Power (kw)	台数 No. of pump	规格型号 Model specs	工作压力 Working pressure (MPa)	工作流量 Working flow (L/s)	功率 Power (kw)	台数 No. of pump	规格型号 Model specs	有效水容积 Effective water volume (m³)	只数 No. of pieces
23	XQ0.10/5-0.30-2	P=1.10 P=1.05 P=1.02 P=0.78	XBD10/5-65L	1	5	22	2	25GDL4-11×10	1.1	1.11	4	2	ML1000*1.6	0.3	1
24	XQ1.0/5-0.45-2	P=1.10 P=1.05 P=1.02 P=0.81	XBD10/5-65L	1	5	22	2	25GDL4-11×10	1.1	1.11	4	2	ML1200*1.6	0.45	1
25	XQ1.1/5-0.15-2	P=1.21 P=1.16 P=1.13 P=0.91	XBD11.5/5-65L	1.1	5	30	2	25GDL4-11×11	1.21	1.11	5.5	2	ML800*1.6	0.15	1
26	XQ1.1/5-0.30-2	P=1.21 P=1.16 P=1.13 P=0.86	XBD11.5/5-65L	1.1	5	30	2	25GDL4-11×11	1.21	1.11	5.5	2	ML1000*1.6	0.3	1
27	XQ1.1/5-0.45-2	P=1.21 P=1.16 P=1.13 P=0.90	XBD11.5/5-65L	1.1	5	30	2	25GDL4-11×11	1.21	1.11	5.5	2	ML1200*1.6	0.45	1
28	XQ1.25/5-0.15-2	P=1.43 P=1.38 P=1.25 P=1.08	XBD12.5/5-65L	1.25	5	30	2	25GDL4-11×13	1.43	1.11	5.5	2	ML800*1.6	0.15	1
29	XQ1.25/5-0.30-2	P=1.43 P=1.38 P=1.25 P=1.03	XBD12.5/5-65L	1.25	5	30	2	25GDL4-11×13	1.43	1.11	5.5	2	ML1000*1.6	0.3	1
30	XQ1.25/5-0.45-2	P=1.43 P=1.38 P=1.25 P=1.07	XBD12.5/5-65L	1.25	5	30	2	25GDL4-11×13	1.43	1.11	5.5	2	ML1200*1.6	0.45	1
31	XQ0.30/10-0.15-2	P=0.33 P=0.28 P=0.25 P=0.20	XBD3/10-80L	0.3	10	7.5	2	25GDL4-11×3	0.33	1.11	1.1	2	ML800*0.6	0.15	1
32	XQ0.30/10-0.30-2	P=0.33 P=0.25 P=0.28 P=0.19	XBD3/10-80L	0.3	10	7.5	2	25GDL4-11×3	0.33	1.11	1.1	2	ML1000*0.6	0.3	1
33	XQ0.30/10-0.45-2	P=0.33 P=0.28 P=0.25 P=0.20	XBD3/10-80L	0.3	10	7.5	2	25GDL4-11×3	0.33	1.11	1.1	2	ML1200*0.6	0.45	1
34	XQ0.40/10-0.15-2	P=0.44 P=0.39 P=0.36 P=0.29	XBD4/10-80L	0.4	10	11	2	25GDL4-11×4	0.44	1.11	1.5	2	ML800*0.6	0.15	1
35	XQ0.40/10-0.30-2	P=0.44 P=0.39 P=0.36 P=0.27	XBD4/10-80L	0.4	10	11	2	25GDL4-11×4	0.44	1.11	1.5	2	ML1000*0.6	0.3	1
36	XQ0.40/10-0.45-2	P=0.44 P=0.39 P=0.36 P=0.29	XBD4/10-80L	0.4	10	11	2	25GDL4-11×4	0.44	1.11	1.5	2	ML1200*0.6	0.45	1
37	XQ0.50/10-0.15-2	P=0.55 P=0.50 P=0.47 P=0.38	XBD5/10-80L	0.5	10	15	2	25GDL4-11×5	0.55	1.11	2.2	2	ML800*0.6	0.15	1
38	XQ0.50/10-0.30-2	P=0.55 P=0.50 P=0.47 P=0.36	XBD5/10-80L	0.5	10	15	2	25GDL4-11×5	0.55	1.11	2.2	2	ML1000*0.6	0.3	1
39	XQ0.50/10-0.45-2	P=0.55 P=0.50 P=0.47 P=0.37	XBD5/10-80L	0.5	10	15	2	25GDL4-11×5	0.55	1.11	2.2	2	ML1200*0.6	0.45	1
40	XQ0.60/10-0.15-2	P=0.66 P=0.61 P=0.58 P=0.47	XBD6/10-80L	0.6	10	15	2	25GDL4-11×6	0.66	1.11	3	2	ML800*1.0	0.15	1
41	XQ0.60/10-0.30-2	P=0.66 P=0.61 P=0.58 P=0.44	XBD6/10-80L	0.6	10	15	2	25GDL4-11×6	0.66	1.11	3	2	ML1000*1.0	0.3	1
42	XQ0.60/10-0.45-2	P=0.66 P=0.61 P=0.58 P=0.46	XBD6/10-80L	0.6	10	15	2	25GDL4-11×6	0.66	1.11	3	2	ML1200*1.0	0.45	1
43	XQ0.70/10-0.15-2	P=0.77 P=0.72 P=0.69 P=0.55	XBD7/10-80L	0.7	10	18.5	2	25GDL4-11×7	0.77	1.11	3	2	ML800*1.0	0.15	1
44	XQ0.70/10-0.30-2	P=0.77 P=0.72 P=0.69 P=0.53	XBD7/10-80L	0.7	10	18.5	2	25GDL4-11×7	0.77	1.11	3	2	ML1000*1.0	0.3	1