13V Series Pump

1. Brief Introduction

13V series pump is swash plate type axial piston pump . 13V Series Pump are designed on the basis of our profound knowledge and long experience , and manufactured under the strict quality control system , thus ensuring 13V series has high efficiency and high reliability .

2. Features

I3V series pump have features as follows:

1 . High Power Density

By a half log type swash plate, a lighter and more compact machine with higher pressure rating and increased power density was obtained.

2. High Efficiency and Large Self-Priming Capability

The spherical valve plate and improved hydraulic balance provide stable cylinder rotation, thus achieving high efficiency even in a low pressure and low speed operating range.

3. Long Life and Low Noise

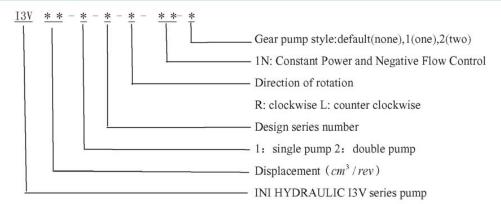
A long life is obtained by adopting main bearings of large capacity and the piston return mechanism that compensates for the wear of the shoes. Even less noise has been achieved because of the optimum design of the valve plate and the casing rigidity.

4. Nice control performance

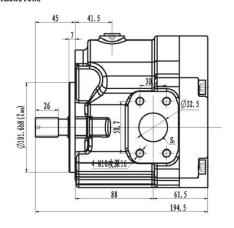
The tilting angle control of the swash plate is conducted by the hydraulic pressure piston which composes the pilot and the servo mechanism .

I3V series pump has optimum function design and is provided with further improved power density, efficiency, and reliability, based upon our long and rich experience. I3V series pump are utilized world-wide to provide the power source for hydraulic excavators cranes, construction machines, car carrier and many other special purpose vehicles.

3. Model Options



Dimensions

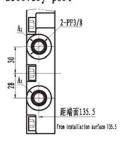


2-Ø13

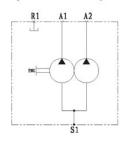
146

170

出油口尺寸 delivery port



液压原理图 Hydraulic Principle



外花键输入参数

Dimensions of shaft end

型号	齿数	径节	压力角	齿顶圆直径	齿根圆直径	跨棒距	量棒直径	花键标准
type	no. of teeth	diametral pitch	pressure angle	major diameter	base diameter	min measurement over two pins	pin diameter	involute spline rule
I3V2-10S	13	16/32	30°	Ø21. 8-0.13	Ø 18. 16-0.11	24. 94	3. 048	ANSI B92.1-1970

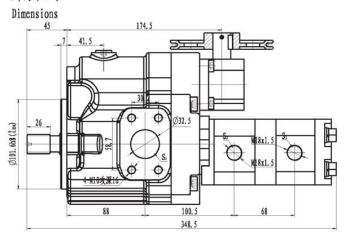
主要性能参数

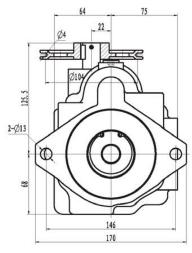
Main Specifications

型号	排量(皿/r)	压力 pres	ssure (MPa)	转速 sp	eed (r/min)	转 向	适用机重 (Ton)
pump size	displacement	额 定 rated	最高 pcak	餐 定 rated	最高 peak	direction of rotation	Applicable Vehicle Mass (Ton)
I3V2-10S	2x10	20	23	2300	2500	从抽場看達時針 counter clockwise 【	2
I3V1-20S	20	20	23	2300	2300	(viewed from shaft end)	L L

Please read carefully the specifications before selection

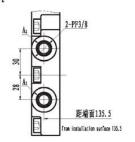
外形尺寸



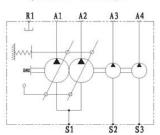


出油口尺寸 delivery port

2-M14x1.5 A.A.



液压原理图 Hydraulic Principle



外花键输入参数

Dimensions of shaft end

型号	齿数	径节	压力角	齿顶圆直径	齿根圆直径	跨棒距	量棒直径	花键标准
type	no. of teeth	diametral pitch	pressure angle	major diameter	base diameter	min measurement over two pins	pin diameter	involute spline rule
I3V2-10S	13	16/32	30°	Ø21. 8-0. 13	Ø18. 16-0.11	24. 94	3. 048	ANSI B92.1-1970

主要性能参数

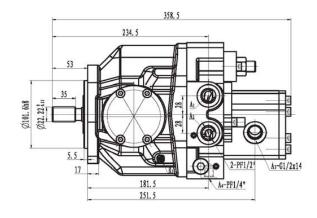
Main Specifications

							•							
型号	排量(mL/r)	压力 press	rossure (MPa) 转速 speed(r/min) 植玻芙港曼(mL/r) 植助茱科曼(r/min) gear pump prossure gear pump prossure gar pump speed		转 向	适用机重 (Ton)								
pump size	displacement	額定 rated	最高 peak	額定 rated	最高 peak	前泵 front	后泵 1881	额定 rated	最高 peak	最低 nin	観定 rated	最高 peak	direction of rotation	Applicable Vehicle Mass (Ton)
13V2-10S	2x10	20	23	2300	2500	1	,	16	20	300	2000	3000	从抽场看进时针 counter cleckwise	2
13V1-20S	20	20	23	2300	2300	4	4	10	20	300	2000	3000	(viewed from shaft end)	2

注: (1) 配套齿轮泵可根据用户需求做出更改。

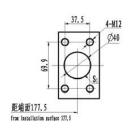
NTOE: (1) gear pump style can be change according to customer's need.

Dimensions

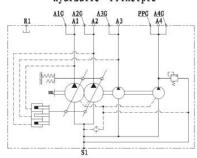


103.8 103.8 2-Ø14

吸油口尺寸 Main Pump Suction Port



液压原理图 Hydraulic Principle



外花键输入参数

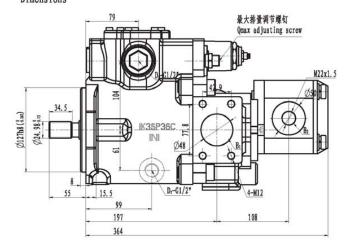
Dimensions of shaft end

型号 type	齿数 no. of teeth	径节 diametral pitch	压力角 pressure angle	齿顶圆直径 major diameter	齿根圓直径 base diameter	跨棒距 min measurement over two pins	量棒直径 pin diameter	花雙标准 involute spline rule
I3V2-28N	13	16/32	30°	Ø22. 22-0.13	Ø18. 16-0.11	24. 94	3. 048	ANSI B92.1-1970

主要性能参数

Main Specifications

型号	排量(mL/r)	辅助泵排 gear pump d	量(mL/r) isplacement	压力 pres	sure (MPa)	自启动最大速度 (r/min)	最大输入扭矩 (N.M)	适用机重(Ton)	
pump size	displacement	推线齿轮泵 gear pump 1	齿轮泵 gear pump 2	聚定压力 rated	最高压力 peak	max self priming speed (r/min)	max input torque (N.M)	Applicable Webicle Mass (Tom)	
13V2-28N	2x27.5	5. 5	16	21.6	24. 5	2600	137. 3	6~7	



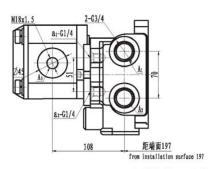
C;-G1/4*
C;-G1/4*

2-Ø18

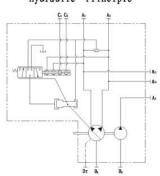
181

213

出油口尺寸 delivery port



液压原理图 Hydraulic Principle



外花键输入参数

Dimensions of shaft end

型号 type	齿数 no. of teeth	径节 diametral pitch	压力角 pressure angle	齿顶圆直径 major diameter	齿根圆直径 base diameter		量棒直径 pin diameter	花雙标准 involute spline rule
13V2-36N	15	16/32	30°	\$\psi_{0.13}\$	Ø 21. 5-0.13	28. 228	3. 048	ANSI B92.1-1970

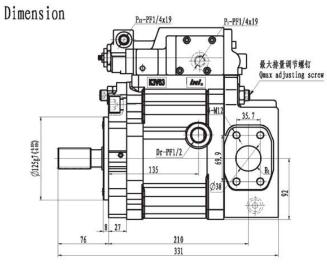
主要性能参数

Main Specifications

型号	排量(mL/r)	压力 pressure (MPa) 转速 speed (r/s			d (r/min)	權助系排量 (mL/r) 種助系圧力 (MPa) gear pump prossure			e gear pump speed			转 向	适用机重 (Ton)
pump size	displacement	額定 rated	最高 peak	概定 rated	最高 peak	gear pump displacement	概定 rated	最高 peak	最低 min	觀定 rated	最高 peak	direction of rotation	Applicable Vehicle Mass (Ton
I3V2-36N	2x36	29. 4	31. 4	2000	2300	10, 12, 5, 14 16, 19, 2, 20 23, 25, 26, 5	20	25	400	2500	3000	从轴端看顺时针 clockwise (viewed from shaft end)	8

注: (1)主泵排量可变,最大排量可根据用户需求设定。 (2)配套齿轮泵可根据用户需求做出更改。 NTOE: (1) main pump displacement is variable, it can be set according to customer's need.

(2) gear pump style can be change according to customer's need.

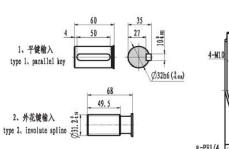


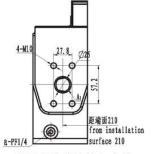
4-Ø18 Ø180 SE

输入型式 Type of shaft end

出油口尺寸 delivery port

液压原理图 Hydraulic Principle





Pri Ba Ba Dr.

渐开线外花键输入参数

Dimensions of involute spline shaft end

型号	齿数	径节 diametral	压力角	齿顶圆直径 major	齿根圆直径 base	跨棒距 min measurement	量棒直径	花键标准
type	no. of teeth	pitch	angle	diameter	diameter	min measurement over two pins	pin diameter	involute spline rule
I3V63-1IN	14	12/24	30°	\$31. 2-0.16	\$ 27-0.16	34. 406	3. 6	ANSI B92.1-1970

主要性能参数

Main Specifications

			inc	in specification	10		
型号	排量(皿/r)	压力 pres	sure (MPa)	最高转速 peak	speed (r/min)	转 向	适用机重 (Ton)
pump size	displacement	概 定 rated	最高 peak	自吸表高 mu self prining	最高 peak	direction of rotation	Applicable Vehicle Mass (Ton)
13V63-1IN	63	31. 4	34. 3	2650	3250	从始端看順时针(或逆时针) clockwise or counter clockwise	12 ~ 15

注: 主泵排量在20∽63范围内可变,最大排量可根据用户需求设定。

外形尺寸 Dimension Pzi-PF1/4x19 P:-PF1/4x19 最大排量调节螺钉 Qmax adjusting screw Ø180 4-Ø18 B2-PF3/4x20 35.7 Ø125g7(4間) A2-PF1/2x20 210 190 255 412 输入型式 出油口尺寸 液压原理图 Type of shaft end delivery port Hydraulic Principle 1、平键输入 type 1, parallel key Ø32h6 (4 m) 49.5 2、外花鏡輸入 元 type 2、involute spline 15 2、外花键输入 距端面210 from installation a-PF1/4 surface 210

渐开线外花键输入参数

Dimensions of involute spline shaft end

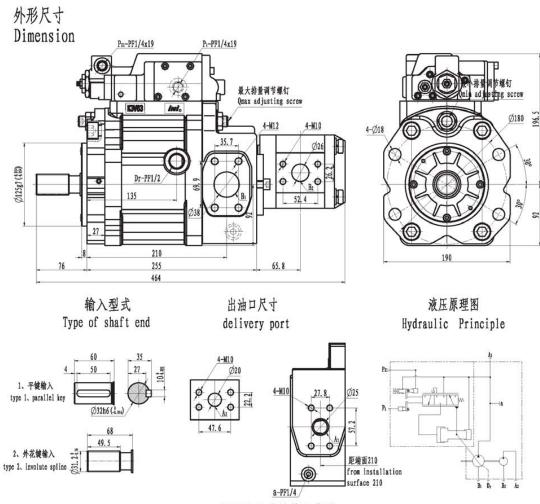
型号 type	齿数 no. of teeth	径节 diametral pitch	压力角 pressure angle	齿顶圆直径 major diameter	齿根圆直径 base diameter	跨棒距 min measurement over two pins	量棒直径 pin diameter	花鏡标准 involute spline rule
13V63-1IN	14	12/24	30°	Ø31. 2-0.16	Ø27-0.16	34. 406	3. 6	ANSI B92.1-1970

主要性能参数

Main Specifications

型号	排量(ml/r)	压力 press	sure (MPa)	最高转速peak	speed (r/min)	辅助泵排量(mL/r)	辅助系额定压力(MPa)	辅助泵额定转速(r/nin)	转 向	适用机重(Ton)
pump size	displacement	製定 rated	最高 peak	ne self prining	# # pent	gear pump displacement	gear pump rated pressure	goar pump rated speed	direction of rotation	Applicable Vehicle Mass (Ton)
I3V63-1IN	63	31. 4	34. 3	2650	3250	12	5	3250	从抽站看順时针 clockwise (viewed from shaft cod)	12 ~ 15

注: 主泵排量在20~63范围内可变,最大排量可根据用户需求设定。



渐开线外花键输入参数

Dimensions of involute spline shaft end

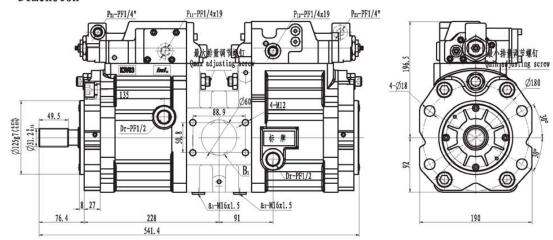
型号	齿数	径节	压力角	齿顶圆直径	齿根圆直径	跨棒距	量棒直径	花键标准
type	no. of teeth	diametral pitch	pressure angle	major diameter	base diameter	min measurement over two pins	pin diameter	involute spline rule
I3V63-1IN	14	12/24	30°	Ø31. 2-0.16	\$\phi_{27_{-0.16}}^{0}\$	34. 406	3. 6	ANSI B92.1-1970

主要性能参数

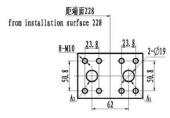
Main Specifications

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型号	排量(mL/r)	压力 pres	sure (MPa)	最高转速peak speed (r/min)		最高转速peak speed (r/min) 補助泵排量(mL/r)		辅助泵压力(MPa) gear pump pressure		系转速(r/ ar pump spe		转 向	适用机重 (Ton)
pump size	displacement	觀定 rated	最高 peak	friedlig	最高 peak	gear pump displacement	额定 rated	最高 peak	最低 min	觀定 rated	最高 peak	direction of rotation	Applicable Vehicle Mass (Ton
I3V63-1IN	63	31. 4	34. 3	2650	3250	10, 12, 5, 14 16, 19, 2, 20 23, 25, 26, 5	20	25	400	2500	3000	从栽培有原時計(直进時計) clockvise or counter clockvise (viewed from shaft end)	12~15

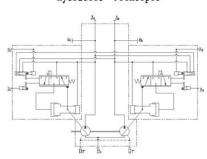
注: (1)主乘排量在20∞63范围内可变,最大排量可根据用户需求设定。 NTOB: (1)main pump displacement is variable , it can be set according to customer's need.
(2)配套齿轮泵可根据用户需求假出更改。 (2)gear pump style can be change according to customer's need.



出油口尺寸 delivery port



液压原理图 Hydraulic Principle



外花键输入参数

Dimensions of shaft end

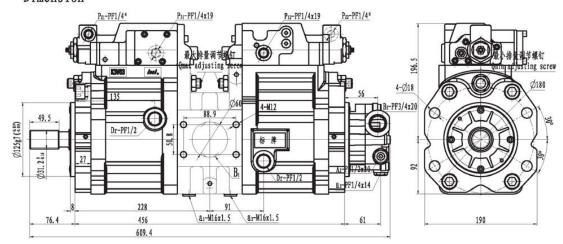
型号 type	齿数 no. of teeth	径节 diametral pitch	压力角 pressure angle	齿顶圆直径 major diameter	齿根圆直径 base diameter	跨棒距 min measurement over two pins	量棒直径 pin diameter	花雙标准 involute spline rule
I3V63-2IN	14	12/24	30°	Ø31. 2-0.16	Ø27-0.16	34. 406	3. 6	ANSI B92.1-1970

主要性能参数

Main Specifications

型号	排 量(mL/r)	压力 pres	sure (MPa)	最高转速 peak	speed (r/min)	转 向	适用机重 (Ton)
pump size	displacement	額 定 rated	兼 高 pcak	自吸表高 mx self prining	最高 peak	direction of rotation	Applicable Vehicle Mass (Ton)
I3V63-2IN	2x63	31. 4	34. 3	2650	3250	从轴端看順时针 clockwise (viewed from shaft end)	12~15

注: 主泵排量在20∽63范围内可变, 最大排量可根据用户需求设定。

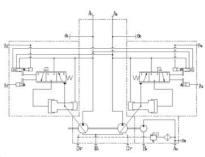


出油口尺寸 delivery port

E编页228
from installation surface 288

8-M10
23.8
2-Ø19
A1
62

液压原理图 Hydraulic Principle



外花键输入参数

Dimensions of shaft end

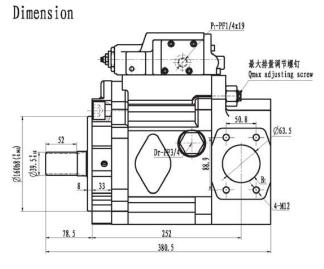
型号	齿数	径节	压力角	齿顶圆直径	齿根圆直径	跨棒距	量棒直径	花键标准
type	no. of teeth	diametral pitch	pressure angle	major diameter	base diameter	min measurement over two pins	pin diameter	involute spline rule
I 3V63-2IN	14	12/24	30°	Ø31. 2-0,16	Ø27-0.16	34, 406	3. 6	ANSI B92. 1-1970

主要性能参数

Main Specifications

型号	排量(mL/r)	压力 pres	sure (MPa)	最高转速peak	speed (r/min)	辅助泵排量(ml./r)	辅助系额定压力(MPa)	辅助泵模定转速(r/min)	转向	适用机重 (Ton)
pump size	displacement	额定 rated	最高 peak	自然最高 ma self prining	A # peak	goar pump displacement	gear pump rated pressure	gear pump rated speed	direction of rotation	Applicable Vehicle Mass (Ton)
I3V63-2IN	2x63	31. 4	34. 3	2650	3250	12	5	3250	从轴端看順时针 clockwise (wiewed from sheft and)	12 ~ 15

注: 主泵排量在20∞63范围内可变,最大排量可根据用户需求设定。

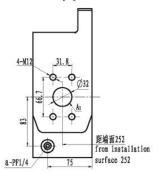


Cain ad justing screw

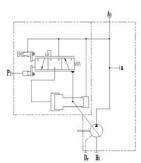
Open ad justing screw

4-022

出油口尺寸 delivery port



液压原理图 Hydraulic Principle



外花键输入参数

Dimensions of shaft en	Dimens	ions	of	shaft	end
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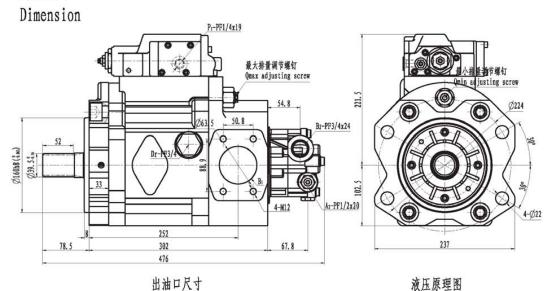
型号 type	齿数 no. of teeth	模数 module	压力角 pressure angle	齿顶圆直径 major diameter		公法线长度 base tangent length	跨测齿数 Anaber of tooth spensed for base tangent langth	花鍵标准 involute spline rule
I3V112-1IN	14	2.5	20°	\$\phi_{39.5_{-0.16}}^0\$	Ø34-0.16	20. 309-0.052	3	JIS D 2001

主要性能参数

Main Specifications

16								
型号	排 量(mL/r)	压力 pres	sure (MPa)	最高转速 peak	speed (r/min)	转 向	适用机重 (Ton)	
pump size	displacement	额 定 rated	最高 peak	皇養養務 ma self prining	最高 peak	direction of rotation	Applicable Vehicle Mass (Ton	
I3V112-1IN	112	31. 4	34. 3	2360	2700	从結場看順时针(或逆时针) clockwise or counter clockwise	25	

注: 主泵排量在20∽116范围内可变, 最大排量可根据用户需求设定。



Hydraulic Principle

外花键输入参数 Dimensions of shaft end

型号 type	齿数 no. of teeth	模数 module				公法线长度 base tangent length		花鏡标准 involute spline rule
I3V112-1IN	14	2.5	20°	\$\phi_{39.5_{-0.16}}^{0}\$	Ø34-0.16	20. 309-0.052	3	JIS D 2001

主要性能参数

Main Specifications

型号	排量(mL/r)	压力 press	sure (MPa)	最高特達peak	speed (r/min)	辅助采拌量(mL/r)	辅助系模定压力 (MPa)	辅助泵额定转速(r/min)	转 向	适用机重 (Ton)
pump size	displacement	颗定 rated	最高 peak	古代最高 ear self prining	A # peak	gear pump displacement	gear pump rated pressure	gear pump rated speed	direction of rotation	Applicable Vehicle Mass (Ton)
13V112-1IN	112	31. 4	34. 3	2360	2700	15	5	2500	从抽場看順时针 clockwise (viewed from shaft end)	25

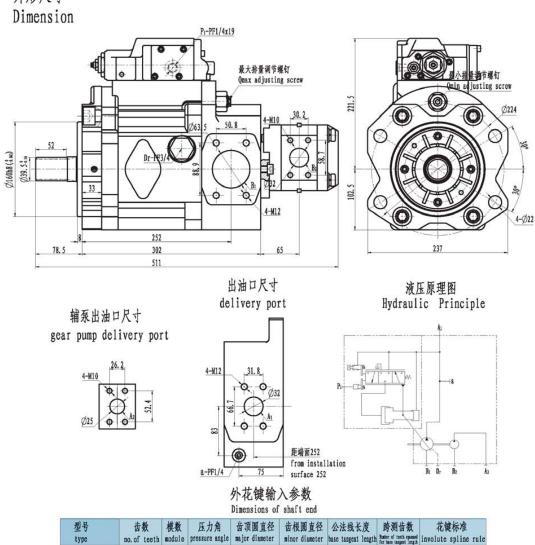
注: 主泵排量在20∽116范围内可变,最大排量可根据用户需求设定。

I3V112-1IN

14

2.5

20°



主要性能参数

\$39.5-0.16

Ø34-0.16

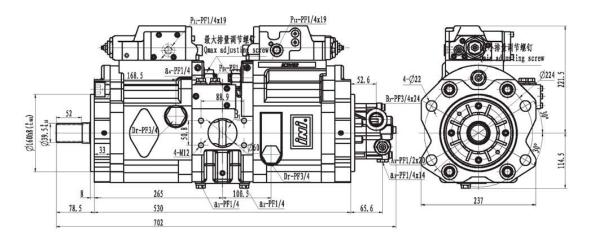
20. 309-0.052

JIS D 2001

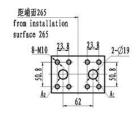
Main Specifications

型号	排量(元/1)	压力 press	力 pressure (MPa) 最高转速pea		高转速peak speed (r/min) 辅助泵抗		補助泵排量(mL/r) 補助泵圧力(MPa) gear pump pressure		維助泵转速(r/min) gear pump speed			转 向	适用机重(Ton)
pump size	displacement	額定 rated	最高 peak	作党最高 mx self printing	最高 peak	gear pump displacement	额定 rated	最高 peak	最低 nin	朝定 rated	最高 peak	direction of rotation	Applicable Vehicle Mass (Ton)
						27						0.00 a day 10.00 a 100	
						32	25	30				从抽塘看版时针(或进时针)	
3V112-1TN	1112	31.4	34. 3	2360	2700	36			400	2500	3000	clockwise or counter clockwise	25
	1000000	N. 5000	70112070	177.000.000		40	20	25	1000			(viewed from shaft end)	
						44	20	73				(Aleaco line sour con)	

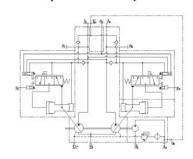
注: (1)主泵排量在20∽112范围内可变,最大排量可根据用户需求设定。MTOB: (1)main pump displacement is variable ,it can be set according to customer's need. (2) 配套齿轮泵可根据用户需求做出更改。 (2) gear pump style can be change according to customer's need.



出油口尺寸 delivery port



液压原理图 Hydraulic Principle



外花键输入参数

Dimensions of shaft end

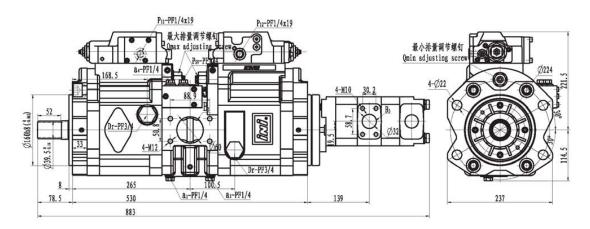
型号 type	齿数 no. of teeth	模数 module				公法线长度 base tangent length		花键标准 involute spline rule
I3V112-2IN	14	2. 5	20°	\$\phi_{39.5_{-0.16}}^{0}\$	Ø34-0.16	20. 309-0.052	3	JIS D 2001

主要性能参数

Main Specifications

型号	排量(mL/r)	压力 press	sure (MPa)	最高特速peak	speed (r/min)	辅助系排量(aL/r)	辅助系额定压力 (MPa)	辅助泵模定转速(r/nin)	转 向	适用机重(Ton)
pump sizo	displacement	額定 rated	最高 peak	A N.A.A. mx mil' prining	A # peak	gear pump displacement	gear pump rated pressure	gear pump rated speed	direction of rotation	Applicable Vehicle Mass (Ton)
I3V112-2IN	2x112	31. 4	34. 3	2360	2700	15	5	2500	从轴端看順时针 clockwise (viewed from shaft end)	25

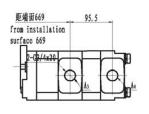
注: 主泵排量在20∽116范围内可变, 最大排量可根据用户需求效定。



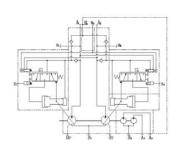
主泵出油口尺寸 main pump delivery port

距端面 265 from installation surface 265 8-M10 23.8 23.8 2-Ø19

辅泵出油口尺寸 gear pump delivery port



液压原理图 Hydraulic Principle



外花键输入参数 Dimensions of shaft end

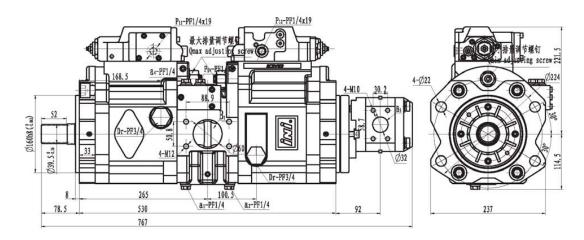
型号 type	齿数 no. of teeth	模数 module				公法线长度 base tangent length		花键标准 involute spline rule
I3V112-2IN	14	2.5	20°	Ø39. 5-0.16	Ø34-0.16	20, 309-0.052	3	JIS D 2001

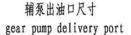
主要性能参数

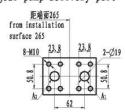
Main Specifications

型号	排量(ml/r)	压力 press	sure (MPa)	最高转速peak speed (r/min		辅助泵排量(mL/r) gear pump displacement		植助泵圧力(MPa) gear pump pressure		報助系转速(r/min) gear pump speed		转 向	适用机重(Ton)	
pump size		額定 rated		自党最高 au mif prining	最高 peak				最高 peak	最低 min	觀定 rated	最高 peak	direction of rotation	Applicable Vehicle Mass (Ton)
						32	25						从轴端看廠时针	
I3V112-2IN	2-112	31. 4	24.2	2260	2700	32	32	25	25 28	28 600	600 2000	000 2500		25
134117-711	2X11Z	31.4	1.4 34.3	2360		40	20	25					clockwise	
						40	22						(viewed from shaft end)	

注: (1)主泵接量在20~112范围內可变,最大排量可根据用户需求设定。 NTOB: (1)main pump displacement is variable ,it can be set according to customer's need. (2)配套由轮泵可根器用户需求做出更改。 (2)gear pump style can be change according to customer's need.



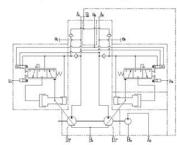




出油口尺寸 delivery port



液压原理图 Hydraulic Principle



外花键输入参数 Dimensions of shaft end

型号 type	齿数 no. of teeth	模数 module				公法线长度 base tangent length		花雙标准 involute spline rule
I3V112-2IN	14	2.5	20°	\$\phi_{39.5_{-0.16}}^{0}\$	Ø34-0, 16	20. 309-0.052	3	JIS D 2001

主要性能参数 Main Specifications

型号	排量(mL/r)	压力 pressure (MPa)		压力 pressure (MPa)		/r) 压力 pressure		最高转速peak	speed (r/min)	辅助泵排量(mL/r)	辅助泵用 gear pump			系转速(r/ ir pump spc		转 向	适用机重(Ton)
pump size	displacement	額定 rated	最高 peak	自受最高 mx milf prining	最高 peak	gear pump displacement	额定 rated	最高 peak	最低 nin	觀定 rated	最高 peak	direction of rotation	Applicable Vehicle Mass (Ton)				
						27						II ALSA KAKALA					
				1000000		32	25	30				从轴端看順时针					
I3V112-2IN	V 2x112	31.4	34. 3	2360	2700	36			400	2500	3000	clockwise	25				

注: (1)主系排量在20∽112范围內可变,最大排量可根据用户需求设定。 NTOB: (1)main pump displacement is variable , it can be set according to customer's need. (2) 配套齿轮泵可根据用户需求做出更改。 (2) gear pump style can be change according to customer's need.