HYDROLIC CONTROL

选 型 样 本

Hons RCM 片式单轴先导手柄

Sectional Hydraulic Remote Control



UV-RC | 12 L/min | 60 bar | 1-12 sections

产品概览与目录

Product overview and contents

RCM 片式单轴先导手柄采用模块化结构，每片由单根操作杆控制两个先导工作油口，可组合 1-12 片。恒石原资料的对应产品型号为 UV-RC。

RCM is a modular single-axis hydraulic remote control. Each section has one lever and two pilot service ports; assemblies contain 1-12 sections. The corresponding Hons source model is UV-RC.

典型应用

Typical applications

微型滑移装载机、挖掘装载机及拖拉机；用于遥控液控多路阀、变量泵与马达、辅助阀、液压制动器及离合器。

Mini skid-steer loaders, backhoe loaders and tractors; remote piloting of directional valves, variable-displacement pumps and motors, auxiliary valves, hydraulic brakes and clutches.

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本样册按 D4 金色 LOGO 版式编制，尺寸单位为 mm，压力单位为 bar。

Layout follows the D4 gold-logo catalogue. Dimensions in mm and pressures in bar.

技术规格

Technical specifications

项目 / Parameter	恒石 UV-RC / Hons	HC-RCM 参考 / Reference
组合片数 Number of sections	1-12	1-12
最大供油压力 Maximum supply pressure	60 bar	100 bar
供油流量 Supply flow	12 L/min	16 L/min
单片重量 Weight per section	1.5 kg	1.5 kg
连接螺杆锁紧扭矩 Tie-rod clamping torque	14 N·m	14 N·m

HC 标准工作条件补充

HC standard operating conditions

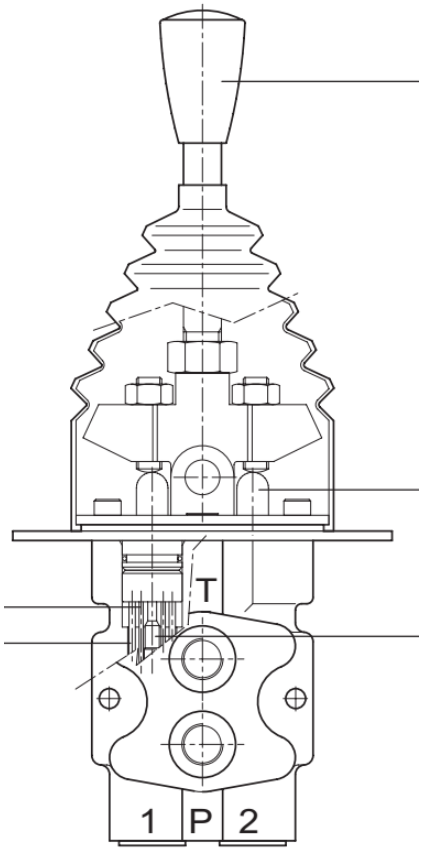
项目 / Parameter	HC-RCM
T 口最大背压 Maximum tank-line backpressure	3 bar
滞环 Hysteresis	0.5 bar
工作介质 Hydraulic fluid	矿物油 Mineral oil
介质温度 / 运动黏度 Fluid temperature / viscosity	-20°C to +80°C / 10-300 cSt
推荐过滤精度 Recommended filtration	25 µm absolute
推荐先导管路 Recommended pilot lines	Ø8 mm rigid / G 1/4 flexible
泄漏量（50 bar） Leakage at 50 bar	3 cm³/min

恒石额定参数采用左列；HC 补充条件需由恒石确认适用性。

Use the Hons column for ratings. Confirm applicability of supplementary HC conditions with Hons.

工作原理

Operating principle



中位：复位弹簧将操作杆保持在中位，P 口关闭，两个工作油口与 T 口相通。

Neutral: the return spring centres the lever, closes P and connects both service ports to T.

操纵：操作杆通过柱塞压缩复位弹簧及反力弹簧，使调节阀芯打开 P 到所选工作口的通路。

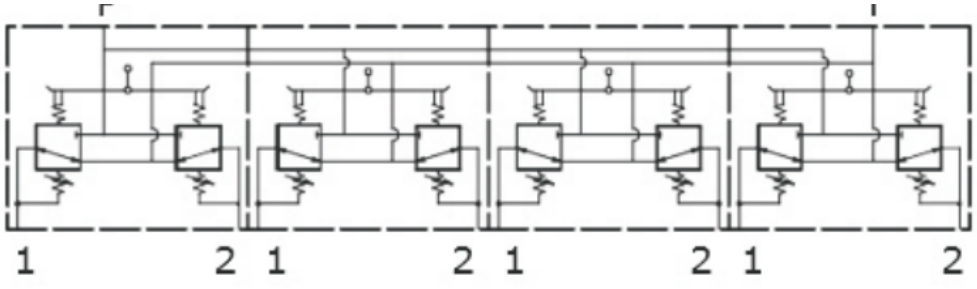
Actuation: the lever and plunger compress the return and reaction springs, moving the metering spool to connect P to the selected service port.

输出压力取决于行程和反力弹簧特性；压力曲线按各先导工作口分别选型。

Output pressure follows stroke and reaction-spring characteristics. Select a metering curve for each pilot service port.

模块组合液压示意

Hydraulic schematic of an assembly



P 为先导供油；T 为回油；1、2 为每片的两个先导工作油口。图示为恒石三片组合。

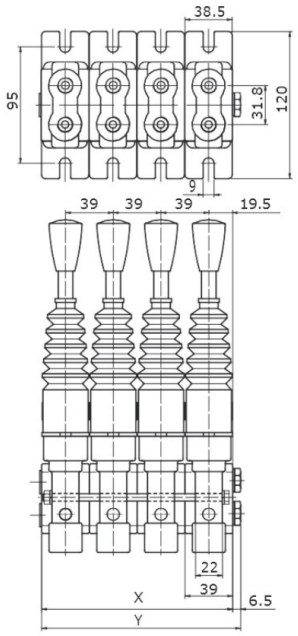
P is pilot supply, T is tank return and 1/2 are the two service ports on each section. The Hons illustration shows a three-section assembly.

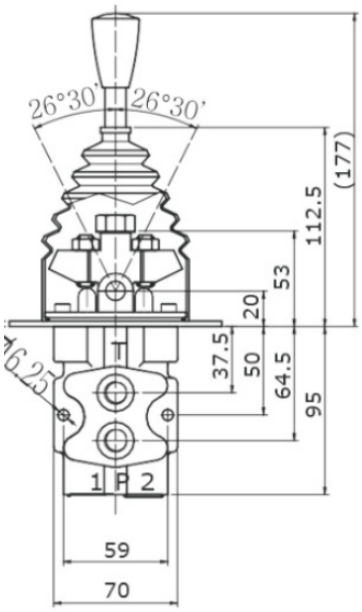
剖视图取自 HC-RCM，液压组合图取自恒石 UV-RC。

Cutaway: HC-RCM. Assembly schematic: Hons UV-RC.

外形尺寸与重量

Overall dimensions and weight





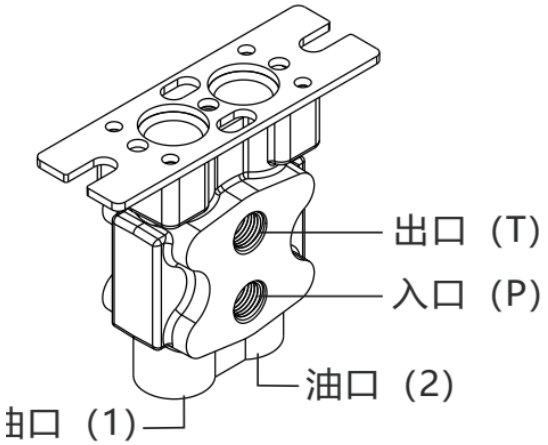
片数 / Sections	X (mm)	Y (mm)	重量 / Weight (kg)
1	39	45.5	1.5
2	78	84.4	3
3	117	123.5	4.5
4	156	162.5	6
5	195	201.5	7.5
6	234	240.5	9
7	273	279.5	10.5
8	312	318.5	12
9	351	357.5	13.5
10	390	395.5	15
11	429	435.5	16.5
12	468	474.5	18

表按恒石原稿保留：Y 在 /2 为 84.4，/10 为 395.5；HC /10 为 396.5。安装前核对确认图。

Hons values retained: Y = 84.4 for /2 and 395.5 for /10; HC lists 396.5 for /10. Verify the approved drawing.

油口与螺纹

Ports and threads



油口 / Port	功能 / Function
P	先导压力油入口 Pilot pressure inlet
T	回油至油箱 Tank return
1 / 2	每片两个先导输出油口 Two pilot service outlets per section

标准阀体与螺纹代码

Standard body and thread codes

实际螺纹 / Thread	恒石阀体 / Hons body	HC 阀体 / HC body
G 1/4 BSP	A G04	RA G02
9/16"-18 UNF	A U02	RA U02

相同接口尺寸在两套资料中的代码不同。恒石 G04 是 G 1/4；HC G02 是 G 1/4。订货时采用对应品牌的完整代码。

Identical thread sizes use different codes. Hons G04 and HC G02 both specify G 1/4. Use the complete code from the selected supplier.

螺纹类型和阀体代码分别核对，不按代码字符直接判断接口尺寸。

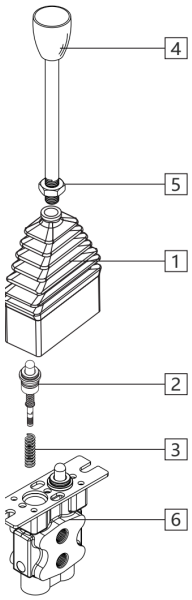
Check actual threads and body codes separately; code characters alone do not determine thread size.

订货示例

Ordering example

UV-RC/1 : C1 - K01 - MA - M - E95 - A G04

字段 / Field	示例 / Example	含义 / Meaning
系列与片数 Series and sections	UV-RC/1	恒石，一片先导手柄 Hons, one remote-control section
控制组件 Control assembly	C1	弹簧复位 Spring centring
压力曲线 Metering curve	K01	带阶跃的线性曲线 Linear curve with step
复位弹簧 Return spring	MA	25 N 预压缩 / 48 N 末端 25 N preload / 48 N end load
握把与连接杆 Handle and lever rod	M / E95	锥形握把 / 95 mm 杆 Conical handle / 95 mm rod
阀体与螺纹 Body and thread	A G04	标准阀体 / G 1/4 Standard body / G 1/4



原稿同时给出重复字段的完整示例：

The source also gives a full example with repeated fields:

UV-RC/1 C1 K01 MA C1 K01 MA M E95 A G04

每片两个工作口分别记录曲线与弹簧；控制组件、握把、连接杆和阀体按该片记录。原稿对重复字段的说明存在歧义，完整订货行应由恒石确认。

Record the curve and spring for each of the two service ports, and the control, handle, rod and body for each section. The source is ambiguous about repeated fields; confirm the complete ordering row with Hons.

本页保留恒石 UV-RC 原始订货系列，不将 RCM 名称自行改写为 UV-RCM。

The original Hons UV-RC ordering series is retained; the RCM title does not create a UV-RCM order code.

标准控制组件

Standard control assemblies

C1



弹簧复位

Spring centring

C2



1、2 口末端机械定位

End-stroke detent at ports 1 and 2

C3



1 口末端机械定位

End-stroke detent at port 1

C4



2 口末端机械定位

End-stroke detent at port 2

C5



弹簧复位，带中位锁定

Spring centring with neutral lock

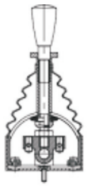
C6



摩擦定位

Friction positioning

C7



摩擦定位，带中位锁定

Friction positioning with neutral lock

代码采用恒石表。C5、C7 的锁定功能按恒石中文说明，不与 HC 电开关配置自动对应。

Hons codes shown. C5/C7 neutral-lock functions do not automatically match HC switch options.

HC 扩展控制参考

HC supplementary control options

HC 代码 / Code	功能 / Function
01	标准弹簧中位复位 Standard spring return to neutral
02 / 03 / 04	1+2 / 1 / 2 位末端机械定位 End-stroke detent in 1+2 / 1 / 2
05 / 06	中位安全锁 / 摩擦定位 Neutral safety lock / friction
12	中位安全锁，中位电触点断开 Neutral safety lock; switch open in neutral
13	摩擦定位，中位电触点断开 Friction; switch open in neutral
14	1、2 位末端定位及中位锁，中位电触点闭合 End detent in 1/2 and neutral lock; switch closed in neutral
17	中位安全锁，中位电触点闭合 Neutral safety lock; switch closed in neutral
18	摩擦定位，中位电触点闭合 Friction; switch closed in neutral
19	弹簧中位复位，中位电触点断开 Spring centring; switch open in neutral

电开关选型

Electrical switch selection

本页均为 HC-RCM 选项。开关常开或常闭状态描述的是操作杆处于中位时的触点状态。恒石相同功能的可供范围、接线和开关额定值须另行确认。

All options on this page belong to HC-RCM. Open/closed states refer to the lever in neutral. Confirm Hons availability, wiring and switch ratings separately.

HC 电气参数原表存在电压及交流/直流标注疑点，本样册不据此给出接线额定值。

HC electrical tables contain questionable AC/DC and voltage labels; they are not used here as wiring ratings.

先导压力曲线选择

Pilot-pressure curve selection

恒石 / Hons	曲线类型 / Curve type	HC 类别 / HC family
K	带阶跃的线性曲线 Linear with step	A
L	不带阶跃的线性曲线 Linear without step	B
M	带阶跃的双段曲线 Two-slope with step	C
N	不带阶跃的双段曲线 Two-slope without step	D

曲线坐标含义

Curve coordinates

K、L 曲线：A、B 为压力（bar），C、D 为柱塞行程（mm）。M、N 曲线：A、B、C 为压力，D、E、F 为柱塞行程。行程不是操作杆角度。

K/L: A and B are pressure in bar; C and D are plunger stroke in mm. M/N: A/B/C are pressure and D/E/F are plunger stroke. Stroke is not lever angle.

工作口的曲线决定先导输出压力，需与被控阀、泵或马达要求相匹配。每个工作口均需指定一条曲线和一种复位弹簧。

Match the service-port pressure curve to the controlled valve, pump or motor. Specify one curve and one return spring for every service port.

数据使用范围

Using the curve data

第 11-14 页保留恒石原表的曲线参数。K05、K48、K52 的表列压力超过 UV-RC 的 60 bar 上限；不作为标准 UV-RC 配置直接采用。其他产品共用曲线和特殊曲线须核对可供范围。

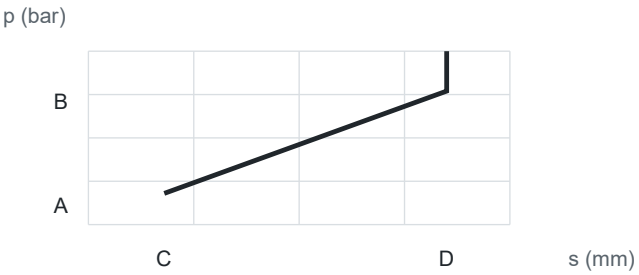
Pages 11-14 retain Hons curve data. Listed pressures for K05, K48 and K52 exceed the UV-RC 60 bar limit and are not adopted as standard UV-RC options. Check availability of shared and special curves.

HC 同号曲线不一定具有相同参数，例如恒石 K05 为 64 bar，HC A05 为 4 bar。

Equal suffixes do not establish equal data: Hons K05 lists 64 bar, while HC A05 lists 4 bar.

K 曲线：K01-K25

K curves: K01-K25



压力：A、B（bar） 行程：C、D（mm）

Pressure: A/B (bar) Stroke: C/D (mm)

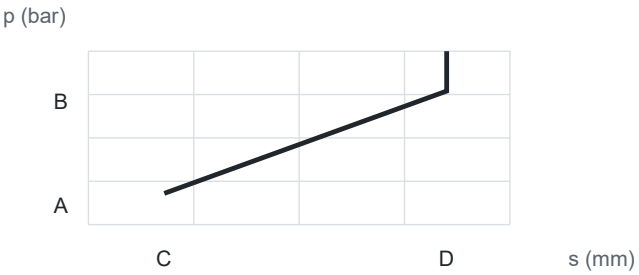
代码 / Code	A (bar)	B (bar)	C (mm)	D (mm)
K01	5.8	19.5	1.5	7.5
K02	5	25	1.5	7.5
K03	2	13	1.5	7.5
K04	6	40	1.5	7.5
K05	0	64	1.5	7.5
K06	4	17	1.5	7.5
K07	5	15	1.5	7.5
K08	2	18	1.5	7.5
K09	5	20	1.5	7.5
K10	2	8	1.5	7.5
K11	4	10	1.5	7.5
K12	11.5	32	1.5	7.5
K13	10	20	1.5	7.5
K14	7	17	1.5	7.5
K15	7.5	29	1.5	7.5
K16	6	22	1.5	7.5
K17	0	20	11	7.5
K18	4	16	1.5	7
K19	6	20.6	1.5	7
K20	8	28	1.5	7.5
K21	5	20.5	1.5	7.5
K22	5.8	18.3	1.5	7
K23	6.8	23.5	1	7.5
K24	5.8	19.2	1	9.5
K25	4.4	17.9	1	6.5

带阶跃线性曲线。K05 超过 60 bar；K17 的 C=11 mm 大于 D=7.5 mm，原稿值保留并待核。

Linear with step. K05 exceeds 60 bar. K17 retains C=11 mm > D=7.5 mm, a source inconsistency requiring confirmation.

K 曲线：补充型号

K curves: additional codes



压力：A、B（bar） 行程：C、D（mm）

Pressure: A/B (bar) Stroke: C/D (mm)

Code	A (bar)	B (bar)	C (mm)	D (mm)
K26	2.8	20.8	1.5	10
K27	5.7	19.1	1.5	7.5
K28	3	16.2	1.5	7.5
K29	8	27.6	1.5	9.5
K30	5.8	15.5	1.5	7.5
K31	5.6	25.2	1.5	7.5
K32	7	15.5	1.2	7.5
K33	10.7	27.5	1	7.5
K34	0	28	1.5	7.5
K35	5.8	24	1.5	9.5
K36	7.4	21	1.5	7.5
K38	7.5	17.7	1.5	7.5
K39	6.6	16.4	1.5	7.5
K40	6.5	11.6	1.5	7.5
K41	5.9	17.4	1.5	7.5

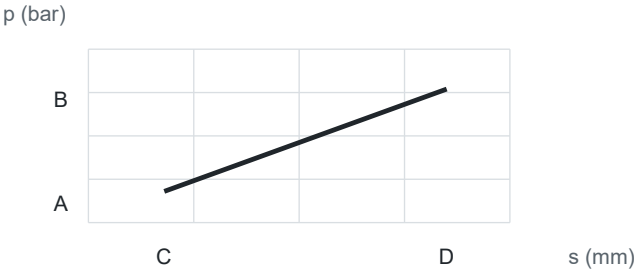
Code	A (bar)	B (bar)	C (mm)	D (mm)
K42	6.6	16.3	1.5	9.5
K43	3	22.2	1.5	7.5
K44	14.5	26.9	1	7.5
K45	8.7	39.2	1.5	7.5
K46	4	22	1.5	7.5
K47	14.7	28.4	1.5	7.5
K48	5	74	1	7.5
K49	0	34	1.5	7.5
K51	7.3	21.7	1.5	7
K52	10	79	1	7.5
K55	3	20	4.5	7.5
K56	5	20	1.5	4.5
K62	5	19	1.5	7
K99	6	19	1.5	3.5

缺号不补编；K48、K52 超出标准 60 bar 供油上限。所有数据来自恒石通用曲线表。

Missing codes are not invented. K48/K52 exceed the standard 60 bar supply limit. Data: Hons general curve table.

L 曲线：不带阶跃

L curves: linear without step



压力：A、B（bar） 行程：C、D（mm）

Pressure: A/B (bar) Stroke: C/D (mm)

Code	A (bar)	B (bar)	C (mm)	D (mm)
L01	5	22	1.5	8
L02	5	19	1.5	8
L03	5	16	1.5	8
L04	2	16.5	1.5	8
L05	7.5	32.5	1	8
L06	5	20	1	8
L07	4	10.5	1.5	8
L08	3	14.5	1.5	8
L09	6	24.3	1	8
L10	2	19.3	1.5	8
L11	7.1	21.9	1	8
L12	8.3	23.2	1	8
L13	7.9	23.6	1	8
L14	6	23	1.5	8
L15	10.2	25.8	1	8
L16	6.9	12.4	1	8

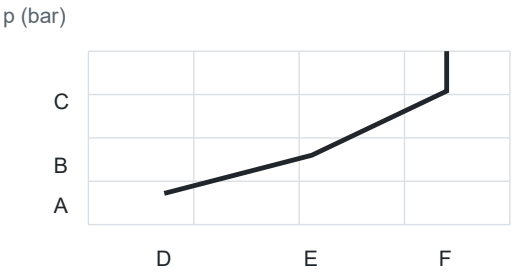
Code	A (bar)	B (bar)	C (mm)	D (mm)
L17	2.1	20.3	1	8
L18	5.8	27	1.5	8
L19	3.2	24.4	1.5	8
L20	2	8.5	1.5	8
L21	2	13.7	1.5	8
L22	5.8	16.4	1.2	7.7
L23	4	18	1.5	8
L24	10.2	25.1	1	8
L25	4.5	23.9	1.5	8
L27	7.5	18.9	1.5	8
L29	3	23.8	1.5	8
L30	6	42	1.5	8
L31	4	29	1	8
L98	6	14.5	1.2	8
L99	4.5	14.5	1.5	8

代码与参数按恒石原表，不能将 HC B 系列同号参数直接替换到 L 系列。

Codes and values follow Hons. HC B-family values with equal suffixes cannot replace L-family data.

M / N 双段压力曲线

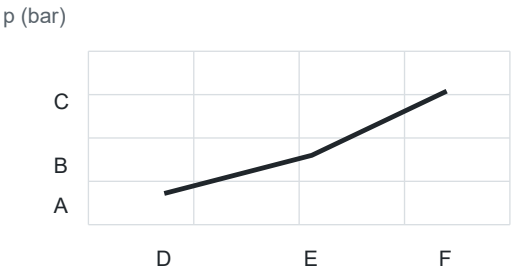
M / N two-slope metering curves



M：带阶跃的双段曲线

M: two-slope curve with step

Code	A (bar)	B (bar)	C (bar)	D (mm)	E (mm)	F (mm)
M01	2	6	15	1.5	5	7.5
M02	3	7	16	1.5	5	7.5
M03	7	18	27	0.5	4.8	6.5
M04	7	18	27	0.5	6.3	8
M05	5	11	18	1	5	7.5
M07	4.2	9	20	1.5	5	7.5
M08	6.5	11	18.5	1	5	7.5
M98	1	2.5	9	1	4.2	8.5
M99	1	2.5	9	1	4.2	9



N：不带阶跃的双段曲线

N: two-slope curve without step

Code	A (bar)	B (bar)	C (bar)	D (mm)	E (mm)	F (mm)
N01	2	6	15	1.5	5	8
N02	4.2	9	22	1	5	8

A、B、C 为压力点；D、E、F 为行程点。图为类型示意，数值按表。

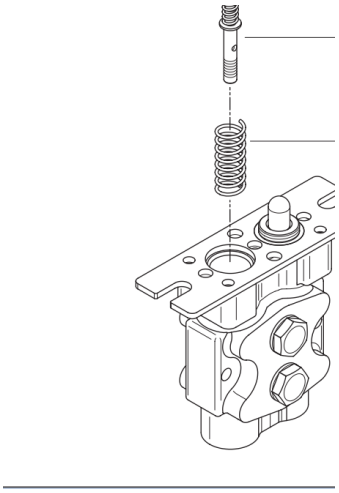
A/B/C: pressure; D/E/F: stroke. Diagrams are schematic; use table values.

数据来源为恒石 PDF 第 32 页；M 曲线的中文分类按图形及订货说明整理。

Source: Hons PDF page 32. M-family classification follows the diagram and ordering explanation.

复位弹簧

Return springs



代码 / Code	恒石预压 / Hons preload	恒石末端 / Hons end load
MA	25 N	48 N
MB	14 N	27 N
MC	73 N	135 N
MD	89 N	169 N

HC-RCM 弹簧对照

HC-RCM spring reference

HC code	预压 / Preload (N)	末端 / End load (N)
MA	29.5	44
MB	14.6	29.4
MC	73.5	135.5
MD	98	186

HC 数据取 N 行。相同弹簧代码的载荷不同，恒石订货采用上表。

HC values use the source N rows. Identical spring codes have different loads; use the upper table for Hons orders.

手柄握把

Handles and grips



M 为恒石 RCM 对应产品的标准锥形握把。恒石通用握把表中，W 对应 RCX，M 对应 RCM；W 不列为本样册的标准 RCM 握把。

M is the standard conical grip for the corresponding Hons RCM product. The general Hons grip table marks W for RCX and M for RCM; W is not listed here as a standard RCM grip.

HC 握把补充选项

Supplementary HC handle options

HC 代码 / Code	描述 / Description
A	无微动开关，标准 Without micro-switch, standard
B	单按钮开关 Single switch button
C	单按钮开关，带保持 Single switch button with latch
D	双微动开关 Dual micro-switch
K	球形握把 Spherical grip
F	人机工程学握把 Ergonomic handle

HC 说明 A、B、C、D、F 仅适用于 HC-RCM/1。恒石 A-B-C-D 多片组合需 BL 中间隔片，详见第 18 页。

HC restricts A/B/C/D/F handles to HC-RCM/1. Hons multi-section A-B-C-D assemblies require BL spacers; see page 18.

HC B/C/D 电阻负载额定值为 4.8 A / 30 VDC、1.5 A / 250 VAC，防护 IP40；仅适用于该 HC 握把。

HC B/C/D resistive ratings: 4.8 A / 30 VDC, 1.5 A / 250 VAC, IP40; these apply only to those HC handles.

连接杆与阀体配置

Lever rods and body configuration

恒石杆 / Hons rod	握把 / Grip	适用恒石控制 / Hons controls
E95	M	C1, C2, C3, C4
E165	M	C1, C2, C3, C4
N95	M	C5, C7
R95	M	C6
A70	A-B-C-D	C1, C2, C3, C4
Q70	A only	C5

连接杆按控制组件与握把组合选型，不能只按长度选。恒石多片示例写作 WA70，而连接杆表写 A70，实际订货码需核对。

Select rods for both control and grip, not length alone. The Hons multi-section example uses WA70 whereas its rod table uses A70; verify the actual order code.

HC 连接杆参考

HC lever rod reference

HC 杆 / Rod	握把 / Grip	适用 HC 控制 / HC controls
WA70	A-B-C-D	01, 02, 03, 04, 06, 18
WF90	F	01, 02, 03, 04, 06, 13, 18
WE95	M	01, 02, 03, 04, 06, 13, 18
WE165	M	05, 12, 14, 17, 19

恒石标准阀体为 A，HC 标准阀体为 RA。恒石 A G04 / A U02 分别为 G 1/4 / 9/16"-18 UNF，接口表见第 6 页。

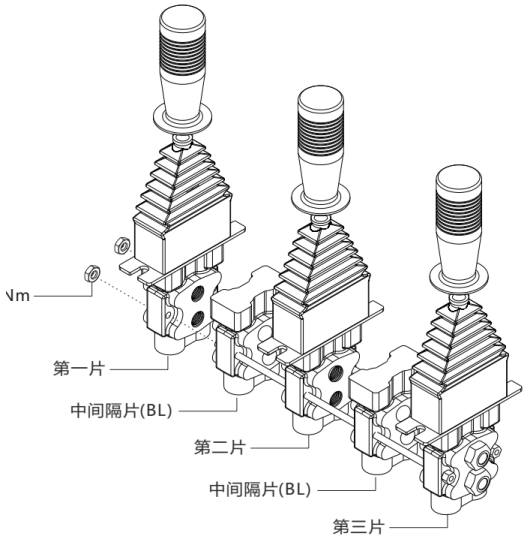
The standard body is Hons A or HC RA. Hons A G04 / A U02 specify G 1/4 / 9/16"-18 UNF respectively; see page 6.

表中控制与杆代码严格按品牌分别使用。

Use control and rod codes within the corresponding supplier system.

组合装配与选型

Assembly and selection



恒石两片及以上组合需要 2 套连接螺杆组件，每套包含一根螺杆、两个垫圈及两个螺母；锁紧扭矩为 14 N·m。

Hons assemblies of two or more sections require two tie-rod kits, each with one rod, two washers and two nuts. Clamping torque is 14 N·m.

恒石 A-B-C-D 握把通常用于 UV-RC/1。多片组合时，相邻两片之间需安装 BL 中间隔片；隔片会改变组合外形，不能沿用无隔片标准尺寸。

Hons A-B-C-D grips normally suit UV-RC/1. Multi-section assemblies require BL spacers between adjacent sections. Spacers change assembly dimensions; the standard unspaced dimensions no longer apply.

订单需提供的信息

Information required for selection

项目 / Item	配置内容 / Required information
系统与执行机构 System and actuators	供油压力、流量、片数、被控阀/泵/马达 Supply pressure/flow, section count and controlled equipment
每片及每个油口 Each section and service port	控制组件、曲线、弹簧、握把、杆、阀体螺纹 Control, curve, spring, grip, rod and body/thread
安装与电气 Installation and electrics	隔片、螺杆、总长、回油背压及开关接线 Spacers, rods, total length, return pressure and switch wiring

图示为恒石带 BL 隔片的三片组合；确认每片配置后形成完整订货行。

Illustration: Hons three-section assembly with BL spacers. Confirm all sections before compiling the full order.

技术注释与资料依据

Technical notes and source references

项目 / Item	恒石 / Hons	HC-RCM
产品系列 Product series	UV-RC	HC-RCM
供油压力 / 流量 Supply pressure / flow	60 bar / 12 L/min	100 bar / 16 L/min
标准弹簧复位 Standard spring centring	C1	01
曲线族 Metering-curve families	K / L / M / N	A / B / C / D
标准握把及连接杆 Standard grip and rod	M / E95	M / WE95
标准 G 1/4 阀体 Standard G 1/4 body	A G04	RA G02

功能相近不表示零件互换。恒石原稿 Y 尺寸 /2、/10，K17 行程、K05/K48/K52 压力，A70/WA70 及订货字段重复说明均存在需确认项，已在对应页标明。电气混合标注不作为接线依据。

Similar functions do not establish part interchangeability. Source issues in Y dimensions (/2 and /10), K17 stroke, K05/K48/K52 pressures, A70/WA70 and repeated order fields are flagged on the relevant pages. Ambiguous electrical labels are not used for wiring.

编制依据

Source documents

恒石《产品样册 20200411》：PDF 第 28-36 页（印刷页 53-69）；额定参数、UV-RC 代码、尺寸、曲线、弹簧及连接杆以此为主。

Hons Product Catalogue 20200411: PDF pages 28-36 (printed pages 53-69), the primary source for ratings, UV-RC codes, dimensions, curves, springs and rods.

HC-RCM 专册 hcrcm_04.pdf，版本 HCRCM-04：PDF 第 3-17 页；用于工作原理、HC 配置及补充条件。

HC-RCM hcrcm_04.pdf, edition HCRCM-04: PDF pages 3-17, used for operating principle, HC configurations and supplementary conditions.

版式基准：Hons 恒石 D4 中英双语产品样册（金色 LOGO 版），沿用 A4、黑金封面、金色页眉、红色章节标识和中英双语表格。

Layout reference: Hons D4 bilingual catalogue, gold-logo edition. A4 pages, black/gold cover, gold header mark, red section accents and bilingual tables are retained.

本样册标题采用 RCM；恒石实际订货系列按原资料 UV-RC 使用。

RCM is the catalogue title; use the original UV-RC series for Hons ordering.

恒石液压

Hons Hydraulics

RCM

片式单轴先导手柄

Sectional Hydraulic Remote Control

湖南恒石液压技术有限公司

Hunan Hons Hydraulic Technology Co., Ltd.

12 L/min | 60 bar | 1-12 sections

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本样册为标准产品选型资料。可供配置、特殊应用及最终安装参数以确认的技术文件为准。

This catalogue gives standard selection information. Confirm available options, special applications and final installation data in approved technical documents.