



HYDRAULIC COMPONENTS HYDROSTATIC TRANSMISSIONS GEARBOXES - ACCESSORIES

HT 16 / P / 151 / 1013 / E

Fixed Displacement Bent Axis Piston Pumps

SCP Series





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GENERAL INFORMATION

The SCP and SCPT are range of piston pumps of a bent axis design with fixed displacement for demanding mobile hydraulics.

It covers the whole displacement range 12-130 cm³/rev., with a max. operating pressure of 300-400 bar. The SCP/SCPT are modern, compact pumps that satisfies the market's strict requirements for flow performance, pressure, efficiency and small installation dimensions.

It can be fitted either directly to the power take-off or on a frame bracket via an intermediate shaft. The SCP/SCPT pumps are supplemented by the By-Pass valve in installations where hydraulics are used while the vehicle is in motion.

The SCP/SCPT's high reliability is based on material selection, hardening methods, surface structures and the quality-assured manufacturing process.

Other benefits of the SCP/SCPT pump

- High maximum speed while maintaining low noise level
- Smooth operation over full speed range
- Long useful life as strict demands are placed on material selection such as bearings, seals, etc.
- O-rings on all contact surfaces plus double shaft seals eliminate oil leakage from both pump and power take-off.

SCP – Standard

Our most common product for demanding truck hydraulics for operating, for example, loader cranes, hooklifts, timber cranes, etc. SCP covers the displacement range 012-108 cm³/rev. and working pressure up to 400 bar. Direction of rotation is easy to change by turning the connection cover. Available for DIN and SAE B/C power take-offs.

SCP – Optimised (see page 5, position 9)

An optimised version for extra high speed, fitted with extra heat-resistant seals (V) to withstand higher temperatures when mounted on an engine power take-off.

Available in left (L) or right (R) hand versions.

Available in two sizes: 084 and 108 cm³/rev. and working pressure up to 400 bar. For DIN power take-offs.

SCP – Optimised for injector (see page 5, position 9)

An externally drained, optimised version offers very high oil flows in combination with the Injector K-Jet 2. Suitable for hydraulic motor operation in closed hydraulic systems with the Injector K-Jet 2 to pressurise the suction side.

This provides very good speed properties and high flows. Fitted with extra heat-resistant seals (V) to withstand higher temperatures when mounted on an engine power take-off. Available in left (L) or right (R) hand versions. Available in two sizes: 084 and 108 cm³/rev. and working pressure up to 400 bar. When supplemented with the By-pass for applications on moving vehicles, the pump speed is limited to the table values without K-Jet 2. For DIN power take-offs.

SCPT

An addition to the SCP series that supports larger flows and working pressure up to 300 bar, ideal for tipper applications.

Available in two sizes, 090 and 130 cc. Direction of rotation is easy to change by turning the connection cover. For DIN power take-offs.

Filtration

It is recommended for an efficient and lasting working life, a solid particle contamination level of 18/16/13 according to ISO 4406.

To ensure said level of contamination is not exceeded, filter should be chosen accordingly, with filtration grade of $\beta 10 \ge 2$.

In any case the contamination level must not be below 20/18/15 according to ISO 4406.

VERSIONS, MAIN DATA

S	С Р -	084		L	-	V	-	C	DL4	-	l	.35	-	SO	S	-	2	
Li	ne 1	2	_	3	-	4	-		5	-		6	-	7	8	-	9	
ine																		
sc	Series Compact																	
І.Тур	e																	
	1	012	017	025	034	040	047	056	064	084	090	108	130					
Р	Pump	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х						
PT	Tipper pump										Х		Х					
2. Dis	placement																	
	-	012	017	025	034	040	047	056	064	084	090	108	130					
3. Dir	ection of rotation					_												
R	Right																	
L	Left																	
4. Sea	aling																	
		012	017	025	034	040	047	056	064	084	090	108	130					
N	Nitrile	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х					
V	HNBR									Х		Х						
	unting flongs																	
5. 1010		012	017	025	024	040	0/7	056	064	094	000	109	120					
DI 4	DIN 4-h (ISO 7653D)	x	X	X	034 X	040 X	X	X	χ	χ	090 X	100 X	X					
SB4	SAE B4	X	Х	X	Х	Х	X	X	X	~	X	~	~					
SC4	SAE C4					Х	Х	Х	Х	Х		Х	(X)					
	I	I																
6. Sha	aft	1			_													
		012	017	025	034	040	047	056	064	084	090	108	130					
L35 L35	DIN 5462 / ISO 14	X	X	X	X	X	X	X	X	X	X	X	X					
пээ R13	SAF B 13t-16/32DP		A Y	^ V	A Y	A Y	A Y	A Y	A Y	۸	A V	۸	^					
н13	SAE B 13t-16/32DP-M12		^	x	x	x	x	x	x	Y	^	X	x					
C14	SAE C 14t-12/24DP			~	Χ	X	X	X	X	X		X	(X)					
		I											(1)					
7. Cor	nnection cover																	
	1	012	017	025	034	040	047	056	064	084	090	108	130					
S0	40° Standard	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х					
8. Coi	nnections																	
		012	017	025	034	040	047	056	064	084	090	108	130					
S	Standard	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	x					
	1	1																
	ditional											-						
9. Ad		012	017	025	034	040	047	056	064	084	090	108	130					
9. Ad	1		v	X	Х	Х	Х	Х	Х	Х	Х	Х	Х					
9. Ad	-	X	^	Λ														
9. Add	- Optimised	X	^	Χ						Х		X						
9. Ad 0 2 3	- Optimised Optimised for injector	X	~	X						X X		X X						

(X) = Available option

Fixed Displacement Bent Axis Axial Piston Pumps

SCP Series

Type SCP DIN		012	017	025	034	040	047	056	064	084	108	
Theoretical oil flow at pump speed	500 rpm 1000 1500	6.3 12.6 18.9	8.5 17.0 25.5	12.7 25.4 38.1	17.1 34.2 51.3	/ 20.6 41.2 61.8	min 23.5 47.1 70.6	28.0 56.0 84.0	31.8 63.6 95.4	41.5 83.6 125.4	54.0 108.0 162.0	
Displacement	cm³/rev	12.6	17.0	25.4	34.2	41.2	47.1	56.0	63.6	83.6	108.0	
Max pump speed continuous limited	rpm	2300 3000	2300 3000	2300 3000	2300 3000	1900 2500	1900 2500	1900 2500	1900 2500	1500 2000	1500 2000	
Max operating pressure continuous intermittent	bar	350 400	350 400	350 400	350 400	350 400	350 400	350 400	350 400	350 400	350 400	
Weight	kg	8.3	8.3	8.5	8.5	11.7	11.7	11.7	11.7	17.0	17.0	
Dimensions	mm A B C D E F G H ISO G P ISO G Q	97 112 202 99 97 89 97 38 50 3/4 1/2	97 112 202 99 97 89 97 38 50 3/4 1/2	97 112 202 99 97 89 97 38 50 ³ /4 1⁄2	97 112 202 99 97 89 97 38 50 3/4 1/2	113 130 228 109 109 99 106 38 50 3/4 1/2	113 130 228 109 109 99 106 38 50 3/4 1/2	113 130 228 109 109 99 106 38 50 3/4 1⁄2	113 130 228 109 109 99 106 38 50 3/4 1/2	$ \begin{array}{r} 123\\147\\259\\126\\126\\115\\123\\50\\64\\1\\1/2\end{array} $	$ \begin{array}{r} 123\\147\\259\\126\\126\\115\\123\\50\\64\\1\\1/2\end{array} $	
Tare-weight torque (M)	Nm	6.9	6.9	7.4	7.4	13	13	13	13	21	21	
Direction of rotation	Left (L) and Right (R)											

Intermittent operation is equated to a max of 6 seconds per minute. For more information contact our Tech. Dpt.





Type SCP DIN Optimized

Type SCP DIN Optimized			084	108	
Nominal oil flow			l/m	nin	
at pump speed		500	41.5	54.0	
	rpm	1000	83.5 125.0	108.0	
	27	1300	125.0	102.0	_
Displacement	cm³/rev.		83.6	108.0	
Max pump speed: continuous intermittent	rpm		1700 2200	1800 2300	
Max operating pressure continuous intermittent	bar		350 400	350 400	
Weight	kg		17.0	17.0	
Tare-weight torque (M)	Nm		21	21	
Direction of rotation	Left (L) and Right (R)				

Intermittent operation is equated to a max of 6 seconds per minute. For more information contact our Tech. Dept.

Installation Drawing



HT 16 / P / 151 / 1013 / E

Type SCP SAE			012	017	025	034	040	047	056	064	040	047	056	064	084	108
						l/n	nin						l/r	nin		
Theoretical oil flow at pump speed	rpm	500 1000 1500	6.3 12.6 18.9	8.5 17.0 25.5	12.7 25.4 38.1	17.1 34.2 51.3	20.6 41.2 61.8	23.5 47.1 70.6	28.0 56.0 84.0	31.8 63.6 95.4	20.6 41.2 61.8	23.5 47.1 70.6	28.0 56.0 84.0	31.8 63.6 95.4	41.8 83.6 125.4	54.0 108.0 162.0
Displacement	cm³/re	٧	12.6	17.0	25.4	34.2	41.2	47.1	56.0	63.6	41.2	47.1	56.0	63.6	83.6	108.0
Max pump speed continuous limited	rpr	n	2300 3000	2300 3000	2300 3000	2300 3000	1900 2500	1500 2000	1500 2000							
Max working pressure continuous intermittent	ba	ır	350 400	350 400	350 400	350 400	350 400	350 400	350 400	300 350	350 400	350 400	350 400	350 400	350 400	350 400
Weight	k	g	8.7	8.6	8.9	8.8	12.3	12.3	12.3	12.2	14.3	14.3	14.3	14.1	19.0	19.0
Dimensions	m	nm A	101	101	101	101	117	117	117	117	119	119	119	119	128	128
		В	117	117	117	117	130	130	130	130	130	130	130	130	147	147
		C	209	209	209	209	235	235	235	235	237	237	237	237	262	262
		D	99	99	99	99	109	109	109	109	109	109	109	109	126	126
		E	97	97	97	97	112	112	112	112	112	112	112	112	126	126
		F	89	89	89	89	100	100	99	100	99	100	100	100	115	115
		G L	9/	97	9/	97	100	100	100	100	100	100	100	100	123	123
		п	50 50	50 50	50	50 50	50 50	50	50 50	50 50	50	50	50	50	50 64	50 64
SAE standard		I	SAE B 13T-16/32DP							50	50		SAE 14T-12	C /24DP	01	01
		J	41	41	41	41	41	41	41	41	56	56	56	56	56	56
		K	101.6	101.6	101.6	101.6	101.6	101.6	101.6	101.6	127.0	127.0	127.0	127.0	127.0	127.0
		L	89.8	89.8	89.8	89.8	89.8	89.8	89.8	89.8	114.5	114.5	114.5	114.5	114.5	114.5
	ISO C	G P	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	1	1
	ISO C	j Q	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Tare-weight torque (M)	Nn	n	6.9	6.9	7.4	7.4	13	13	13	13	13	13	13	13	21	21
Direction of rotation	l eft (l) and R	iaht (R))												

Intermittent operation is equated to a max of 6 seconds per minute. For more information contact our Tech. Dpt.

Installation Drawing





Fixed Displacement Bent Axis Axial Piston Pumps

Type SCPT			090	130
			l/n	nin
Nominal oil flow		500	45.0	65.0
at pump speed	rpm	1500	90.0 135.0	195.0
Displacement		cm³∕rev.	90.0	130.0
Max pump speed: continuous limited		rpm	1500 2000	1500 2000
Max working pressure:				
continuous		bar	250	250
intermittent			300	300
Weight		kg	11.7	17.0
Dimensions	mm	А	113	123
		В	130	147
		C	228	259
		D	109	126
		E	109	120
		F	106	173
		Ч	38	50
			50	64
	ISO G	Р	3/4	1
	ISO G	Q	1⁄2	1/2
Tare-weight torque	Nm	М	13	21
Direction of rotation	left(l);	and Right (R)	

Intermittent operation is equated to a max of 6 seconds per minute. For more information contact our Tech.Dpt.

Installation Drawing



Type SCP DIN Optimized for		084			108						
K-Jet 2		withou	t 160	250	withou	ut 160	250	350			
Oil flow at 97% vol. efficiency and 20 MPa	rpm 500 1000 1500 2000 2500 3000	41.0 81.0 122.0		nin 	52.0 105.0 157.0	ا⁄ا 52.0 105.0 157.0	min 105.0 157.0 210.0 262.0	 157.0 210.0 262.0 314.0			
Displacement	cm³/rev		83.6				108.0				
Max. pump speed min. continuous max. continuous max. limited	rpm	300 1700 2200	750 2000	1200 3000	300 1800 2300	550 1500	1000 2500	1200 3000			
Max. working pressure continuous intermittent	bar		350 400			35 40	0 0				
Weight	kg		17.0			17	.0				
Tare-weight torque (M)	Nm		21			2	1				
Direction of rotation		Left (L)	and Rig	ght (R)	Lef	t (L) and	Right (R	.)			

Intermittent operation is equated to a max of 6 seconds per minute. For more information contact our Tech. Dpt.



Threaded suction connection with feed pressure above 4 bar.



Installation Drawing





Injector K-JET 2



General Information

Injector K-JET 2 is a basic technical solution for the recirculation of oil in closed hydraulic systems that is cost efficient and saves weight.

Three models K-JET 2, cover the flows 160, 250 and 350 l/min.

K-JET 2 recirculates the oil with an injector.

This function replaces the previous standard of feed pressure pumps as compensation for leakage oil losses in the main circuit and any scavenging pumps for the cooling and filtering circuits.

K-JET 2 also slightly pressurises the feed pressure, which means a significantly higher pump speed than the self-priming speed can be used.

This is reflected in a considerable increase in the capacity of the pump.

Hydraulic systems with pressure feed of the pump require the pump to externally drained.

Pump SCP Optimized for injector, conforms to these demands and is recommended in applications with injector K-JET 2.

K-JET 2 has no moving parts, which makes it completely maintenance free.

Advantages of K-JET 2 compared with open hydraulic circuits:

- Reduced tank size and oil volume. Only 15-20 % of the main pump flow.
- Lower weight through smaller oil tanks.
- Lower cost for oil.
- Significantly higher pump speed.

Injector K-JET 2

Function

K-JET 2 houses an injector.

When the return flow is led in port R and meets the injector, approximately 10% of the flow is deflected via port A. The flow and leakage flow from the pump and hydraulic motor are led to the oil tank.

New oil is drawn in from the tank via port N and is added with the injector's other through flow.

Suitable counterbalancing with the deflected flow at A, means a specific positive pressure can be maintained on the outgoing low, port Z. This pressurised flow is fed to the pump's suction line.

This working principle has several benefits in a closed system for hydraulic motor operations:

- The oil tank can be small.
- Deflection provides for oil turnover.
- New oil is also supplied to compensate for internal leakage.
- The pressurised outgoing flow (feed pressure) permits a significantly higher pump speed than the self-priming speed.

Selection of the injector

K-JET 2 is available in three different sizes with a max. recommended flow of 160, 250 or 350 l/min. The diagrams show the pressure after the K-JET 2 injector

as a function of the oil flow. The pressure rises when the flow increases and is adapted to the pump's requirement.

Tank size

The size of tank is selected so that the whole oil volume is turned over in 1.5 to 2 minutes.

When the oil is purged. If 10% of the injector's return flow is deflected to the tank and the leakage flow from the motor and pump is normal, the volume of the tank is calculated to be 15-20% of pump's flow in I/min.

Most applications require an oil cooler.

We will help you to select he right components please contact our Tech. Dept.

Hydraulic diagram



Installation drawing









As HANSA-TMP has a very extensive range of products and some products have a variety of applications, the information supplied may often only apply to specific situations.

If the catalogue does not supply all the information required, please contact HANSA-TMP.

In order to provide a comprehensive reply to queries we may require specific data regarding the proposed application.

Whilst every reasonable endeavour has been made to ensure accuracy, this publication cannot be considered to represent part of any contract, whether expressed or implied.

The data is this catalogue refer to the standard product. The policy of HANSA-TMP consists of a continuous improvement of its products. It reserves the right to change the specifications of the different products whenever necessary and without giving prior information.



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