HANSA · TMP srl

HYDRAULIC COMPONENTS
HYDROSTATIC TRANSMISSIONS
GEARBOXES - ACCESSORIES

HT 17 / D / 102 / 0909 / E

Bent Axis Piston Motors
SCM Series

ISO

SAE

M2

Index

SCM 010 - 130 ISO Motors

General Information

The SCM-ISO series motor is a range of robust axial piston motors expecially suitable for mobile hydraulics.
The SCM-ISO series motor is of the bent axis type with spherical pistons.
The design results in a compact motor with few moving parts, high starting torque and high reliability.
The SCM-ISO series motors covers the entire displacement range 10 - 130 cm^3/n. at a maximum working pressure of 40 MPa.
The SCM-ISO series motors is well dimensioned, double tapered roller bearings permit high shaft loads and lead to excellent speed characteristics.
The SCM-ISO high level of reliability is based on the choice of materials, hardening methods, surface structures and the quality assured manufacturing process.

Technical Information

Tipo SCM.....ISO		010	012	017	020	025	034	042	047	056	064	084	108	130
Displacement	cm^3/n	10,1	12.6	17.0	19,1	25.4	34.2	41,8	47.1	56.0	63.5	83.6	108.0	130.0
Working pressure														
max. intermittent	MPa	42	42	42	42	42	42	42	42	42	42	42	42	37
max. continuous	MPa	37	37	37	37	37	37	37	37	37	37	37	37	32
Revolutions														
max. intermittent	n/min.	8800	8800	8800	8800	7000	7000	6300	6300	6300	6300	5200	5200	5200
max. continuous	n/min.	8000	8000	8000	8000	6300	6300	5700	5700	5700	5700	4700	4700	4700
min. continuous	n/min.	300	300	300	300	300	300	300	300	300	300	300	300	300
Power														
max. intermittent	kW	48	55	75	79	88	117	133	148	177	198	217	280	290
max. continuous	kW	19	22	27	35	43	58	60	67	84	95	107	137	140
Start torque theoretical value	Nm/MPa	1,6	2.0	2.7	3,0	4.0	5.4	6,6	7.5	8.9	10.0	13.3	17.1	20.5
Mass moment of inertia (x 10^{-3})	kg m^2	0,9	0.9	0.9	0,9	1.1	1.1	2.6	2.6	2.6	7.4	7.4	7.4	7,4
Weight	kg	8,5	8,5	8.5	8.5	9.5	9.5	16.5	16.5	16,5	16.5	28.0	30.5	30.5

Data concerning the speed are based on the maximum permitted peripheral velocity for the tapered rolle bearings.
Intermittent power data are based on maximum continuous speed and maximum working pressure.
Continuous power data are based on maximum output power without external cooling of the motor housing.
Intermittent duty is defined as follows: max. 6 seconds per minute, e g peak RPM when unloading or accelerating.

SCM 010 - 130 ISO Motors

Versions, Main Data

Example **M - 012 W / N - I4 A / G - S**

Type:
M Motor with fixed displacement

Size:
010 Displacement cm³/rev.
012
017
020
025
034
042
047
056
064
084
108
130

Direction of rotation:
W Reversible

Shaft seal:
N Nitrile
H Nitrile, high pressure
V Viton, high temperature

Connection cover

SCM 010-130	S	Angled 40° to the shaft centerline
SCM 010-034	K	Combi
SCM 042-108	R	Side port connection
SCM 042-108	V	Angled 90° to the shaft centerline

Connections:

SCM 010-034	G	ISO G thread
SCM 042-130	F	Flange (SAE J518, code 62)

Type of shaft:
Spline shaft (DIN 5480)

	A	C	E
SCM 010-020	W25x1.25x18x9g	W20x1.25x14x9g	
SCM 025	W30x2x14x9g	W25x1,25x18x9g	
SCM 034	W30x2x14x9g		
SCM 042–056	W35x2x16x9g	W32x2x14x9g	W30x2x14x9g
SCM 064	W35x2x16x9g		
SCM 084	W40x2x18x9g	W35x2x16x9g	
SCM 108	W45x2x21x9g	W40x2x18x9g	
SCM 130	W45x2x21x9g		

Key shaft (DIN 6885)

	B	D
SCM 010-020	Ø 25 k6	Ø 20 k6
SCM 025	Ø 30 k6	Ø 25 k6
SCM 034	Ø 30 k6	
SCM 042–056	Ø 35 h8	Ø 30 k6
SCM 064	Ø 35 h8	
SCM 084	Ø 40 k6	
SCM 108-130	Ø 45 k6	

Mounting flange:
I4 ISO 4-bolt (ISO 3019-2)

Choice of Shaft Seal

Motor SCM	Code	Temp. °C	Max. housing pressure MPa at rpm 1000	2000	3000	4000	5000	6000	7000	8000	9000
010-034	N	75	0.55	0.27	0.18	0.14	0.11	0.09	0.08	0.07	0.06
	H	75	2.46	1.23	0.82	0.61	0.49	0.41	0.35	0.31	0.27
	V	90	0.55	0.27	0.18	0.14	0.11	0.09	0.08	0.07	0.06
042-064	N	75	0.55	0.27	0.18	0.14	0.11	0.09	0.08		
	H	75	2.46	1.23	0.82	0.61	0.49	0.41	0.35		
	V	90	0.55	0.27	0.18	0.14	0.11	0.09	0.08		
084-130	N	75	0.38	0.19	0.13	0.10	0.08	0.06			
	H	75	1.72	0.86	0.57	0.43	0.34	0.29			
	V	90	0.38	0.19	0.13	0.10	0.08	0.06			

Subject to design modifications without notice

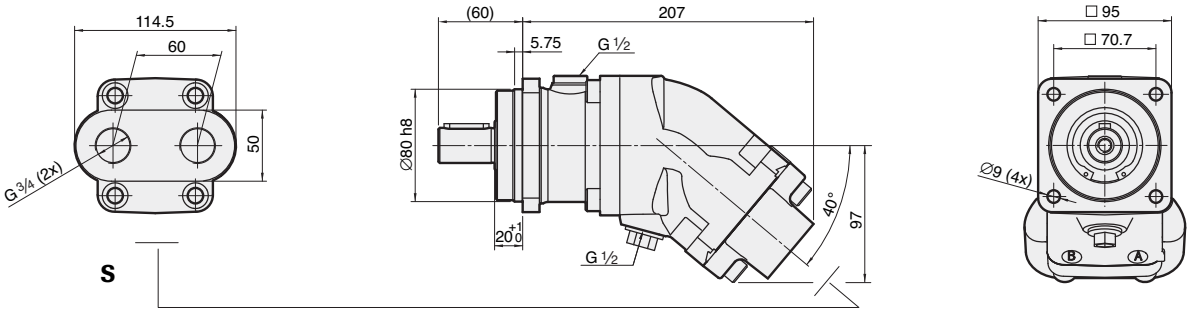
Factors affecting the choice of shaft seal include the hydraulic motor housing pressure and the drainage oil temperature.

The drainage oil should have a maximum temperature of 75 °C with a Nitrile shaft seal and 90 °C with a Viton shaft seal. These temperatures must not be exceeded.

Code according to Versions, main data.

SCM 010 - 012 - 017 - 020 ISO Motors

Installation Drawings



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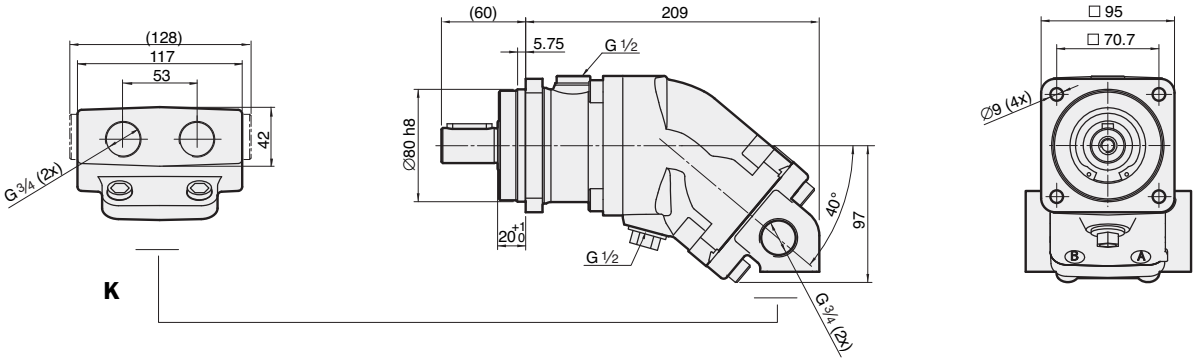

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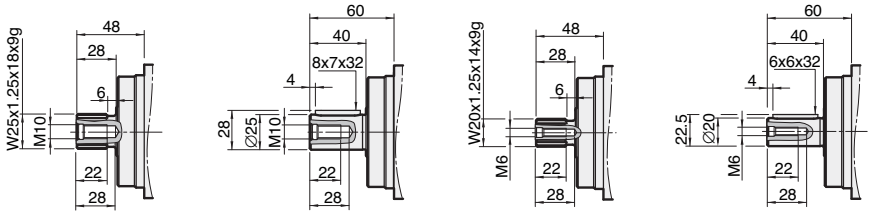
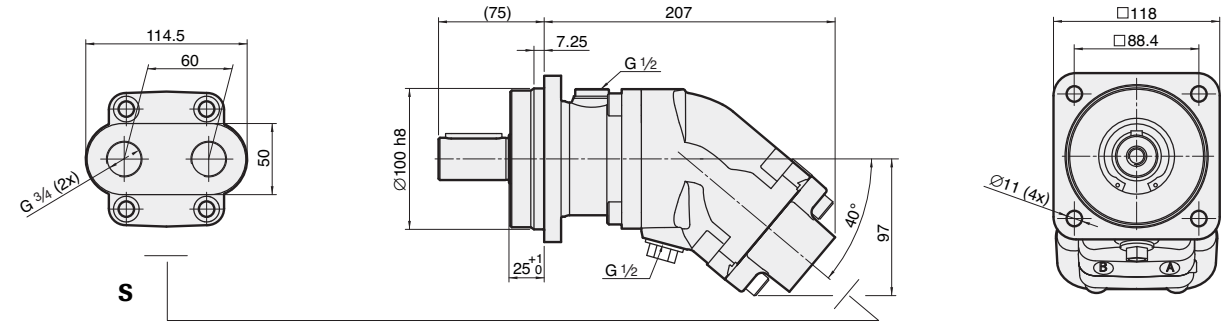
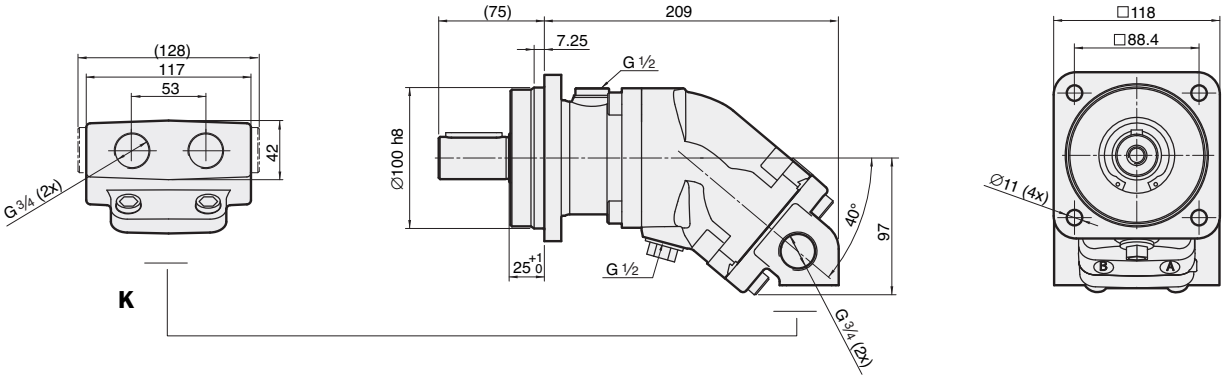


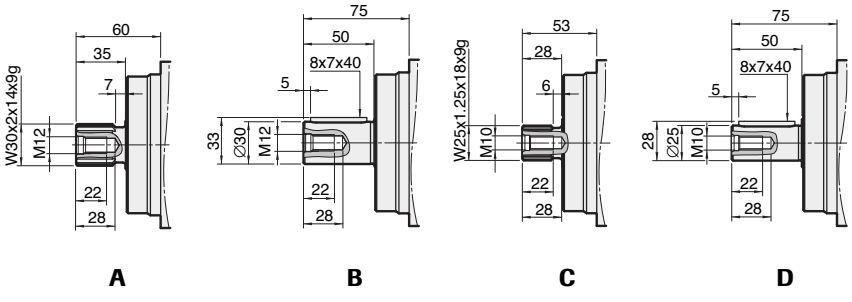
A **B** **C** **D**

SCM 025 - 034 ISO Motors

Installation Drawings

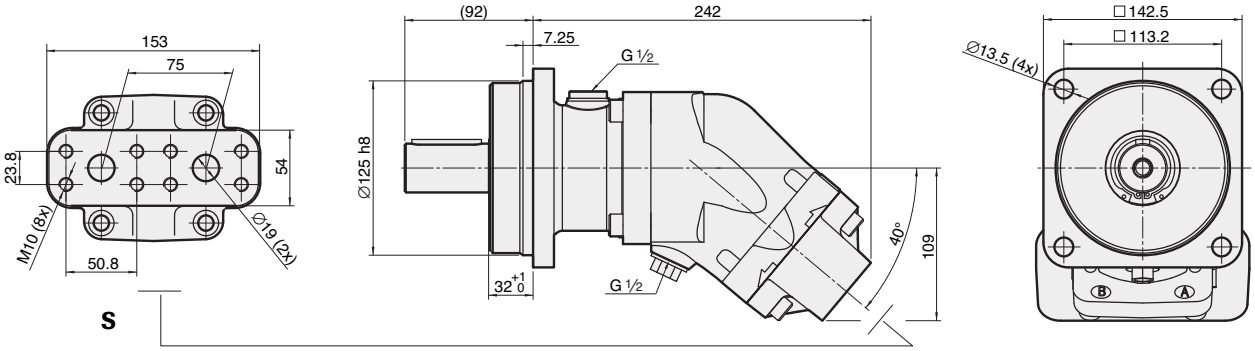


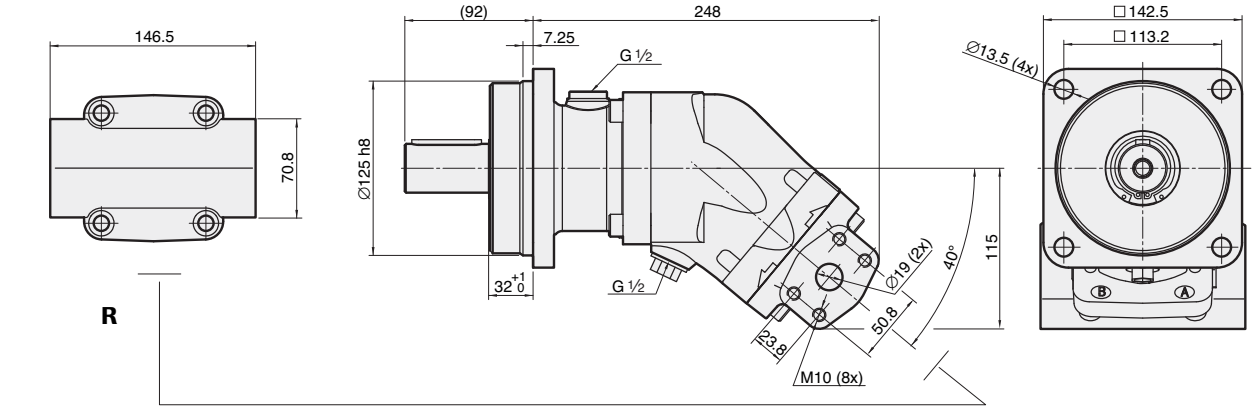


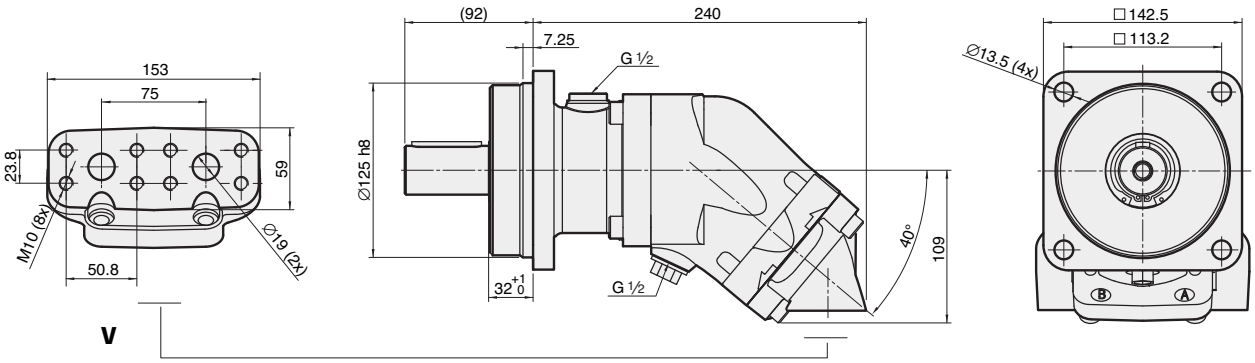


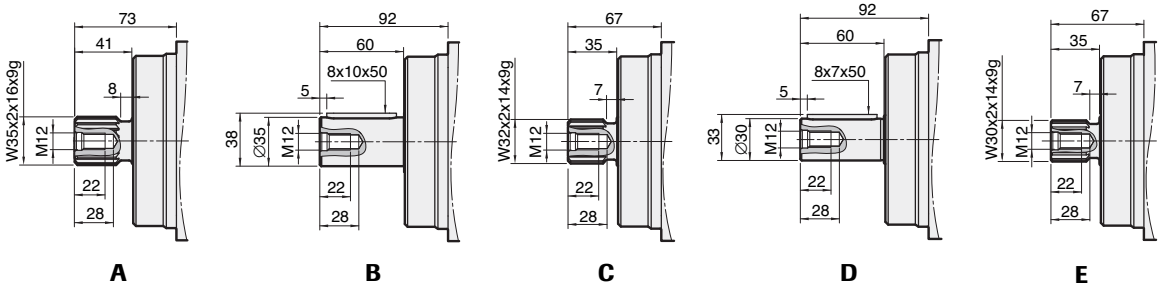
SCM 042 - 047 - 056 - 064 ISO Motors

Installation Drawings



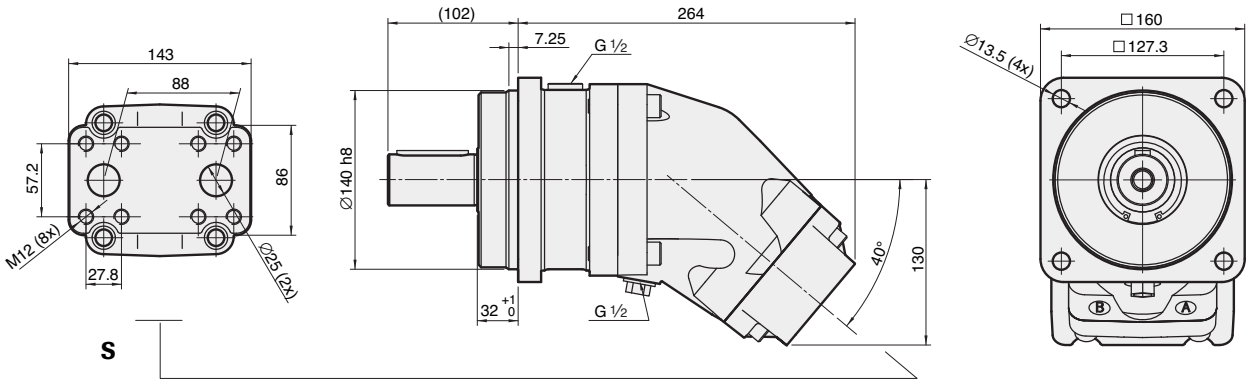


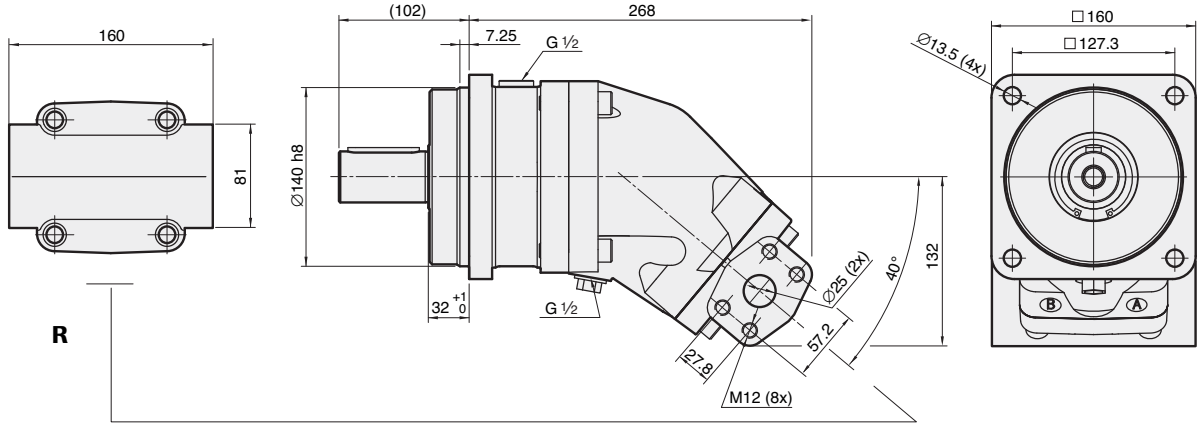


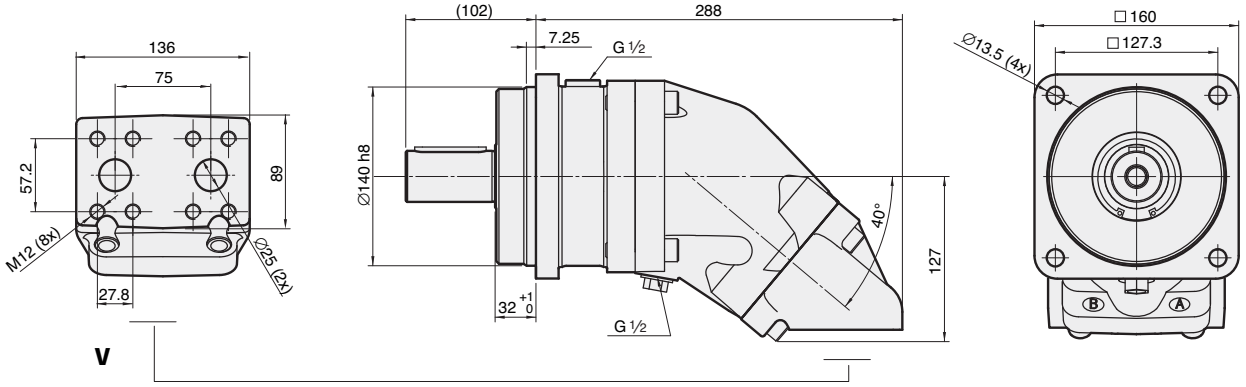


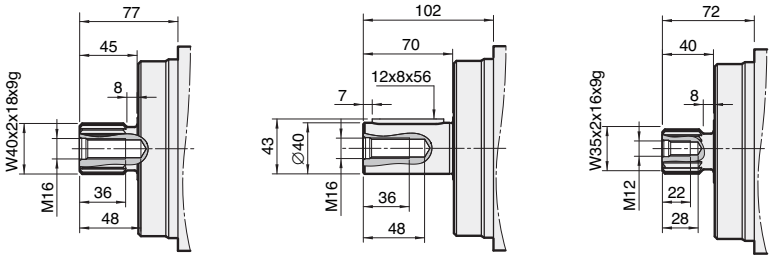
SCM 084 ISO Motors

Installation Drawings



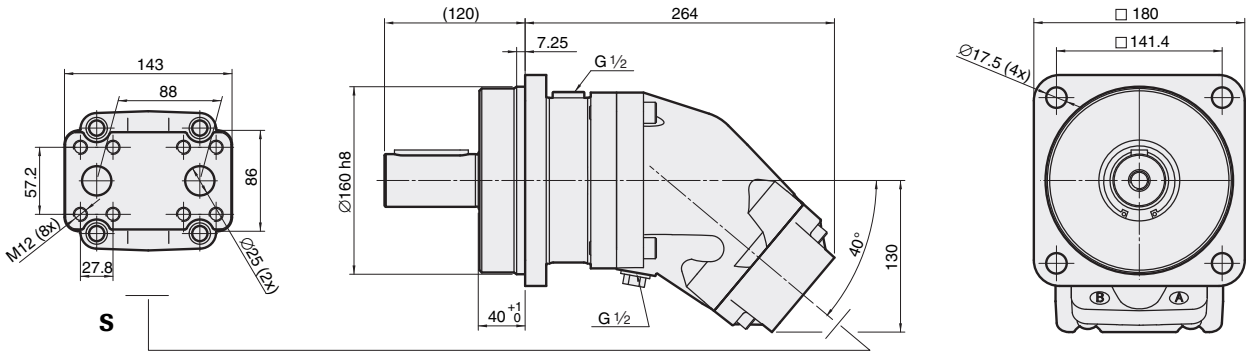


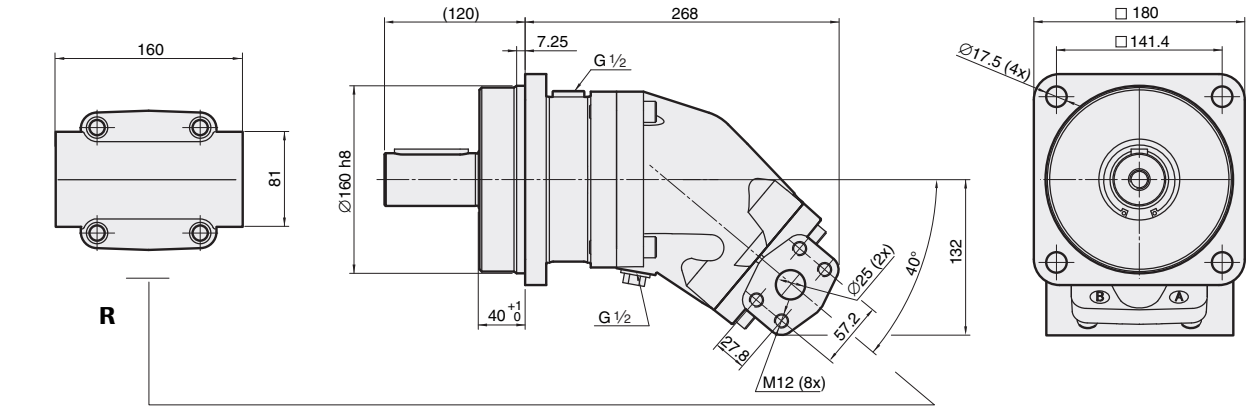


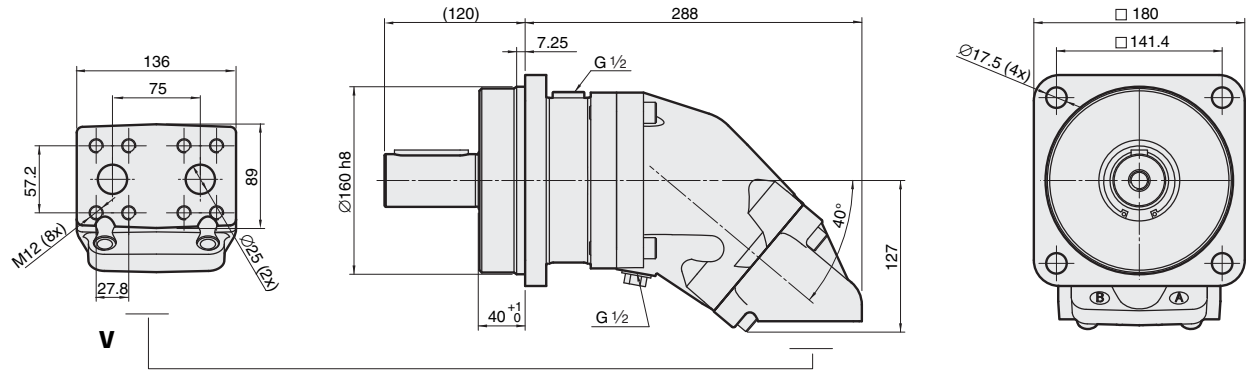


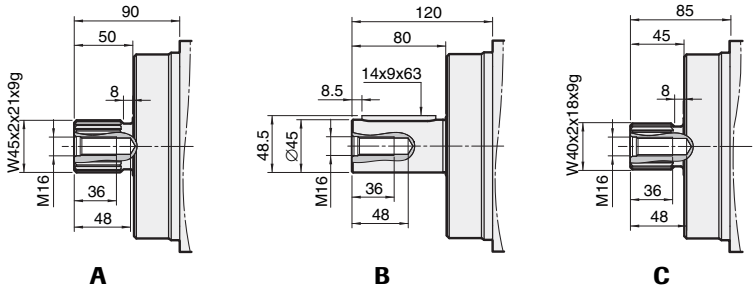
SCM 108 - 130 ISO Motors

Installation Drawings









SCM 010 - 130 ISO Motors

General Instructions

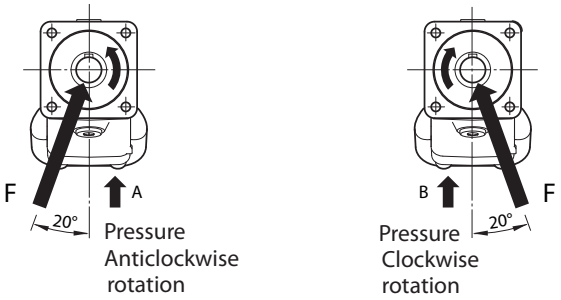
Shaft loads

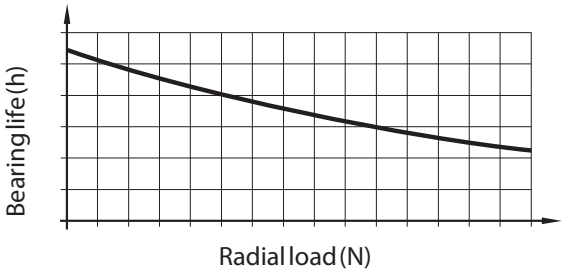
The life of the motor is highly dependent on the bearing life.

The bearings are affected by operation conditions such as speed, pressure, oil viscosity and filtration. External load on the shaft, as well as its size, direction and location also affect the bearing life.

For calculation of bearing life in special applications, please contact our Tech Dpt.

Optimal force direction of radial load

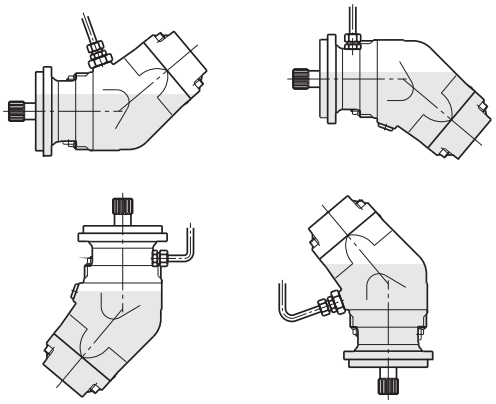




Installation

The motor housing should be filled with oil to at least 50% before starting. The drainage pipe should be connected to topmost drainage outlet.

The other end of the pipe should be connected to the oil tank at a point below the oil level.



Piping

Recommended oil velocity in pressure line max. 7 m/sec.

Filtering

Cleanliness according to ISO norm 4406, code 16/13.

SCM 010 - 130 ISO Motors

General Instructions

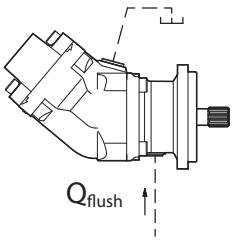
Temperatures/Housing cooling

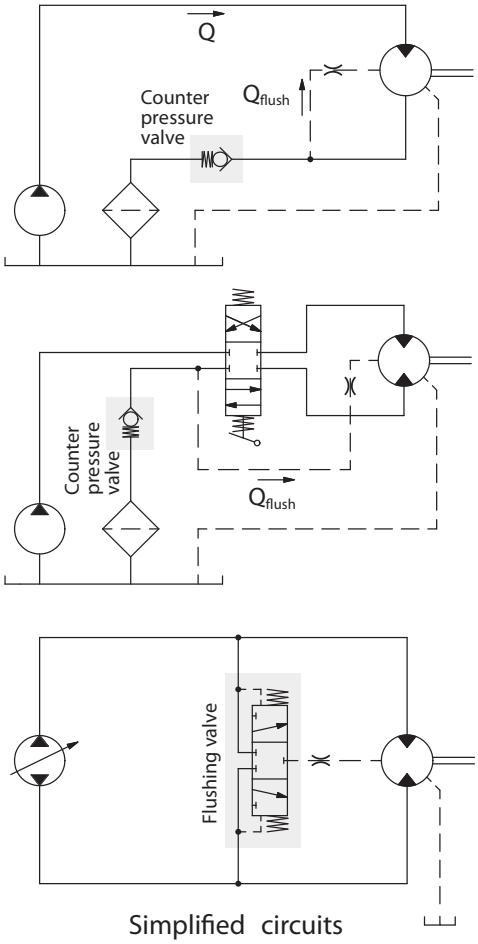
Excessive system temperature reduces the life of the shaft seal and can lower the oil viscosity below the recommended level. A system temperature of 60 °C and a drain flow temperature of 90 °C must not be exceeded.
Cooling/flushing of the motor housing can be needed to keep the drain flow temperature at an acceptable level.

Suggested flow:

Motor SCM	Flushing l/min	Cont. RPM
012-034	2-8	≥ 2800
047-064	4-10	≥ 2500
084-130	6-12	≥ 2200

Housing flushing can be built up with the help of a flushing valve or taken directly from the return line. When the return pressure is too low this is compensated for by a counter pressure valve.
The tank line is connected to the highest point as in the figure.





Simplified circuits

Hydraulic fluids

High performance oils meeting ISO specifications - such as HM, DIN 51524-2HLP, or better - must be used.

A min. viscosity of 10 cSt is required to keep the lubrication at a safe level.

The ideal viscosity is 20 - 40 cSt.

Useful formulaes

Required flow rate $Q = \frac{D \times n}{1000 \times \eta_v}$ litres/min.

Speed $n = \frac{Q \times 1000 \times \eta_v}{D}$ RPM

Torque $M = \frac{D \times \Delta p \times \eta_{hm}}{6.3}$ Nm

Power $P = \frac{Q \times \Delta p \times \eta_t}{60}$ kW

D = displacement, cm^3/revolution
n = speed, revolution/min
P = power, kW
Q = flow rate, litres/min
η_v = volumetric efficiency
η_{hm} = hydraulic-mechanical efficiency
η_t = overall efficiency = $\eta_v \times \eta_{hm}$
M = torque, Nm
Δp = pressure difference between the hydraulic motor inlet and outlet, MPa

SCM 012 - 130 SAE Motors

General Information

The SCM-SAE series motor is a range of robust axial piston motors expecially suitable for mobile hydraulics.
The SCM-SAE series motor is of the bent axis type with spherical pistons.
The design results in a compact motor with few moving parts, high starting torque and high reliability.
The SCM-SAE series motors covers the entire displacement range 12- 130 cm^3/n. at a maximum working pressure of 40 MPa.
The SCM-SAE series motors is well dimensioned, conbines a tapered roller bearings and radial bearing for high shaft loads and lead to excellent speed characteristics.
The SCM-SAE high level of reliability is based on the choice of materials, hardening methods, surface structures and the quality assured manufacturing process.

Technical Information

Type SCM.....SAE.....		012 SAE B	017 SAE B	025 SAE B	034 SAE B	047 SAE C	064 SAE C	084 SAE C	084 SAE D	108 SAE C	108 SAE D	130 SAE D
Displacement	cm^3/rev.	12.6	17.0	25.4	34.2	47.1	63.5	83.6	83.6	108.0	108.0	130.0
Working pressure												
max. intemittent	MPa	42	42	42	42	42	42	42	42	42	42	37
max. continuous	MPa	37	37	37	37	37	37	37	37	37	37	32
Revolutions												
max. intemittent	rpm	8250	8250	6500	6500	5900	5900	4800	4600	4800	4600	4600
max. continuous	rpm	7500	7500	5900	5900	5300	5300	4400	4200	4400	4200	4200
min. continuous	rpm	300	300	300	300	300	300	300	300	300	300	300
Power												
max. intemittent	kW	50	70	80	110	135	180	200	190	255	245	255
max. continuous	kW	20	25	40	55	65	90	100	100	130	130	135
Start torque theoretical value	Nm/MPa	2.0	2.7	4.0	5.4	7.5	10.0	13.3	13.3	17.1	17.1	20.5
Mass moment of inertia (x 10^{-3})	kg m^2	0.9	0.9	1.1	1.1	2.6	2.6	6.3	7.4	6.3	7.4	7.4
Weight	kg	9.0	9.0	9.0	9.0	15.0	15.0	18.0	35.0	18.0	35.0	35.0

Data concerning the speed are based on the maximum permitted peripheral velocity for the tapered roller bearings.
Intermittent power data are based on maximum continuous speed and maximum working pressure.
Continuous power data are based on maximum output power without external cooling of the motor housing.
Intermittent duty is defined as follows: max. 6 seconds per minute, at peak RPM when unloading or accelerating.

SCM 012 - 130 SAE Motors

Versions, Main Data

Example **M - 084 W / N - C4 S / F**

Type:
M Motor with fixed displacement

Size:
012 Displacement cm^3/rev.
017
025
034
047
064
084
108
130

Direction of rotation:
W Reversible

Shaft seal:
N Nitrile
H Nitrile, high pressure
V Viton, high temperature

Connections:
SCM 012-034 U UN thread
SCM 012-034 G ISO G thread
SCM 047-130 F Flange (SAE J518 code 62)

Type of shaft:
S Spline shaft (SAE J498b)
SCM 012-034 SAE B 13T 16/32 30° CLASS 5
SCM 047-108 SAE C 14T 12/24 30° CLASS 5
SCM 084-130 SAE D 13T 8/16 30° CLASS 5

K Key shaft (SAE J744)
SCM 012-034 SAE B Ø 25.4
SCM 047-108 SAE C Ø 31.7
SCM 084-130 SAE D Ø 44.45

Mounting flange:
SCM 012-034 SAE B B4 SAE B (SAE J744)
SCM 047-108 SAE C C4 SAE C (SAE J744)
SCM 084-130 SAE D D4 SAE D (SAE J744)

Choice of Shaft Seal

Motor SCM	Code	Temp. °C	Max. housing pressure MPa at rpm 1000	1500	2000	3000	4000	5000
012-034 B	N	75	0.64	0.42	0.32	0.21	0.16	0.12
	H	75	2.87	1.91	1.43	0.96	0.72	0.52
	V	90	0.64	0.42	0.32	0.21	0.16	0.12
047-108 C	N	75	0.55	0.36	0.27	0.18	0.14	0.11
	H	75	2.46	1.64	1.23	0.82	0.61	0.51
	V	90	0.55	0.36	0.27	0.18	0.14	0.11
084-130 D	N	75	0.35	0.23	0.17	0.12		
	H	75	1.56	1.04	0.78	0.52		
	V	90	0.35	0.23	0.17	0.12		

Subject to design modifications without notice

Factors affecting the choice of shaft seal include the hydraulic motor housing pressure and the drainage oil temperature.

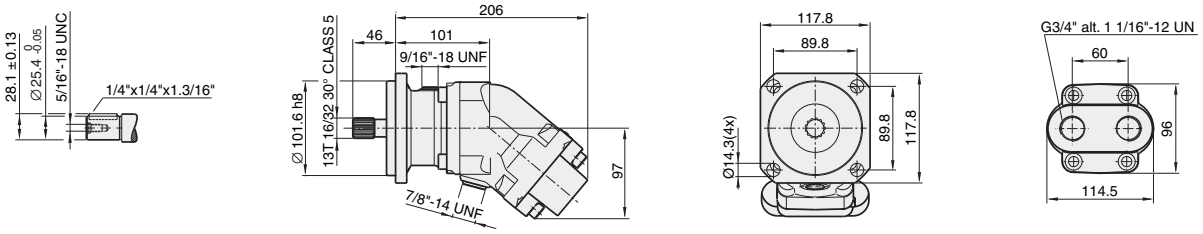
Code according to Versions, main data.

The drainage oil should have a maximum temperature of 75 °C with a Nitrile shaft seal and 90 °C with a Viton shaft seal.
These temperatures must not be exceeded.

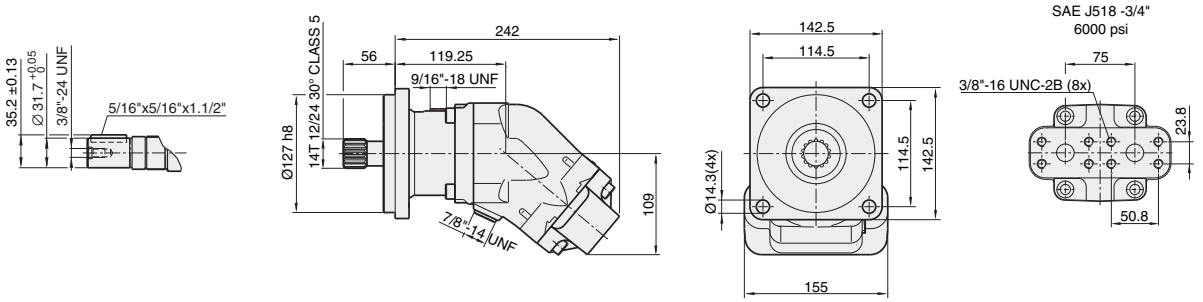
SCM 012 - 130 SAE Motors

Installation Drawings

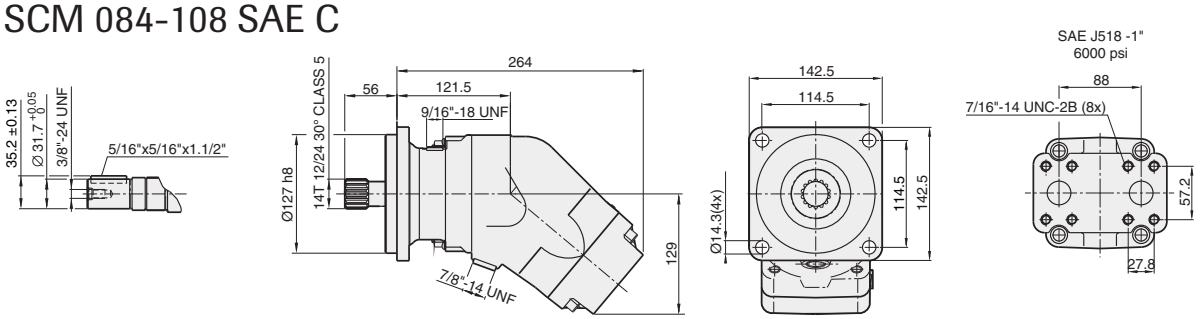
SCM 012-034 SAE B



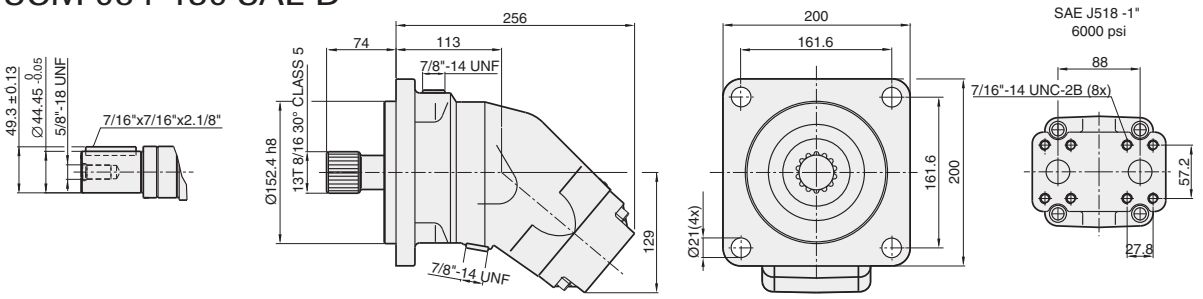
SCM 047-064 SAE C



SCM 084-108 SAE C



SCM 084-130 SAE D



SCM 012 - 130 SAE Motors

General Instructions

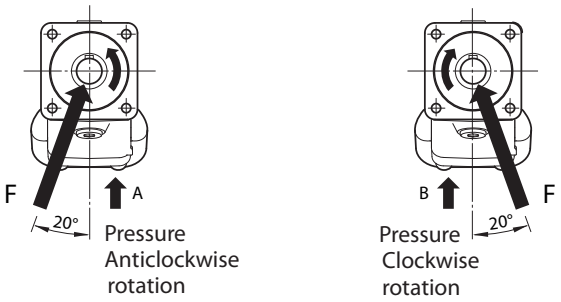
Shaft loads

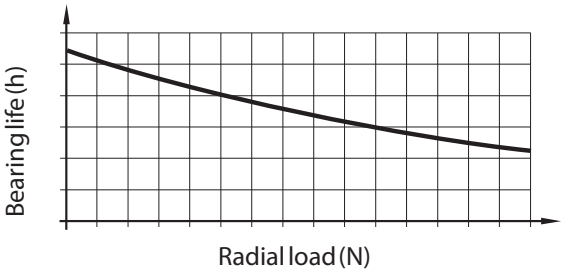
The life of the motor is highly dependent on the bearing life.

The bearings are affected by operation conditions such as speed, pressure, oil viscosity and filtration. External load on the shaft, as well as its size, direction and location also affect the bearing life.

For calculation of bearing life in special applications, please contact our Tech Dpt.

Optimal force direction of radial load

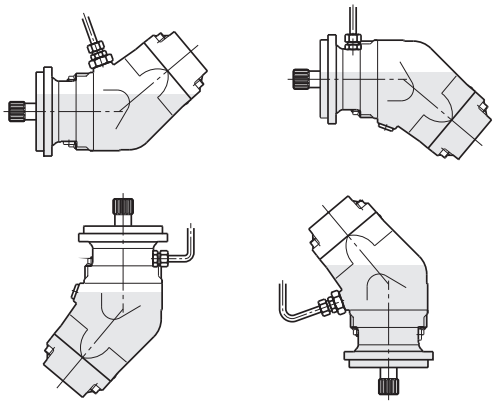




Installation

The motor housing should be filled with oil to at least 50% before starting. The drainage pipe should be connected to topmost drainage outlet.

The other end of the pipe should be connected to the oil tank at a point below the oil level.



Piping

Recommended oil velocity in pressure line max. 7 m/sec.

Filtering

Cleanliness according to ISO norm 4406, code 16/13.

SCM 012 - 130 SAE Motors

General Instructions

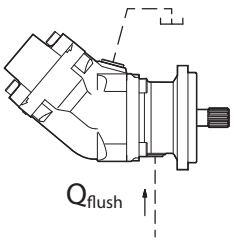
Temperatures/Housing cooling

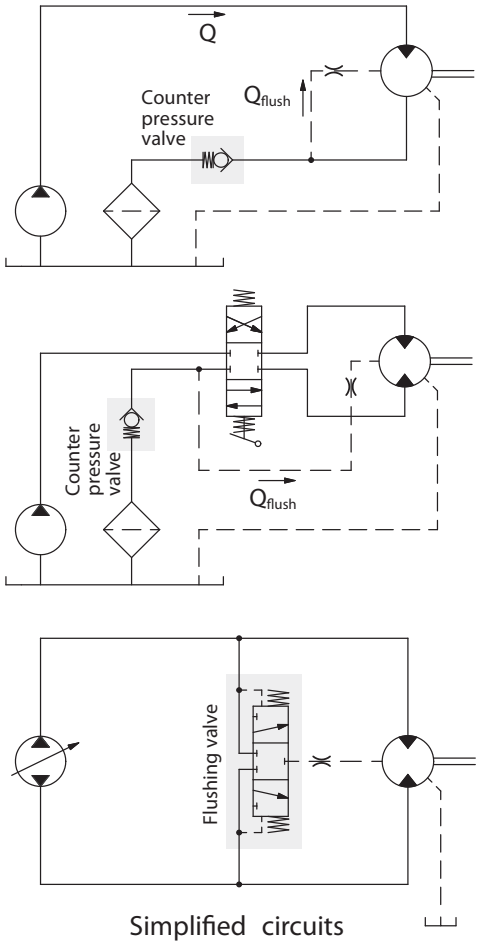
Excessive system temperature reduces the life of the shaft seal and can lower the oil viscosity below the recommended level. A system temperature of 60 °C and a drain flow temperature of 90 °C must not be exceeded.
Cooling/flushing of the motor housing can be needed to keep the drain flow temperature at an acceptable level.

Suggested flow:

Motor SCM	Flushing l/min	Cont. RPM
012-034	2-8	≥ 2800
047-064	4-10	≥ 2500
084-130	6-12	≥ 2200

Housing flushing can be built up with the help of a flushing valve or taken directly from the return line. When the return pressure is too low this is compensated for by a counter pressure valve.
The tank line is connected to the highest point as in the figure.





Simplified circuits

Hydraulic fluids

High performance oils meeting ISO specifications – such as HM, DIN 51524-2HLP, or better – must be used.

A min. viscosity of 10 cSt is required to keep the lubrication at a safe level.

The ideal viscosity is 20 - 40 cSt.

Useful formulaes

Required flow rate $Q = \frac{D \times n}{1000 \times \eta_v}$ litres/min.

Speed $n = \frac{Q \times 1000 \times \eta_v}{D}$ RPM

Torque $M = \frac{D \times \Delta p \times \eta_{hm}}{6.3}$ Nm

Power $P = \frac{Q \times \Delta p \times \eta_t}{60}$ kW

D = displacement, cm^3/revolution
n = speed, revolution/min
P = power, kW
Q = flow rate, litres/min
η_v = volumetric efficiency
η_{hm} = hydraulic-mechanical efficiency
η_t = overall efficiency = $\eta_v \times \eta_{hm}$
M = torque, Nm
Δp = pressure difference between the hydraulic motor inlet and outlet, MPa

SCM 012 - 34 SAE B2 Motors

General Information

HANSA-TMP has now expanded the SCM family and also offer a two bolt flange SAE B2 012-034.

The design features double conical roller bearings, wich permits high shaft loads and given superb speed performances.

Type		012	017	025	034
Displacement	$cm^3/rev.$	12.6	17.0	25.4	34.2
Working pressure					
max. intermittent	MPa	40	40	40	40
max. continuous	MPa	35	35	35	35
Revolutions					
max. intermittent	rpm	8250	8250	6500	6500
max. continuous	rpm	7500	7500	5900	5900
min. continuous	rpm	300	300	300	300
Power					
max. intermittent	kW	50	70	80	110
max. continuous	kW	20	25	40	55
Start torque theoretical value	Nm/MPa	2.0	2.7	4.0	5.4
Mass moment of inertia (x 10^{-3})	$kg\ m^2$	0.9	0.9	1.1	1.1
Weight	kg	9.5	9.5	9.5	9.5

Data concerning RPM are based on maximum permitted peripheral speed for the tapered roller bearings.

Intermittent power data are based on maximum continuous speed and maximum working pressure.

Continuous power data are based on maximum output power without external cooling of the motor housing.

Intermittent duty is defined as follows:max 6 seconds per minute, e g peak RPM when unloading or accelerating.

Subject to design modifications without prior notices.

Choice of shaft seal		Temp.	Max. housing pressure MPa at rpm					
Motor SCM	Code	°C	1000	1500	2000	3000	4000	5000
012-034	N	75	0.64	0.42	0.32	0.21	0.16	0.12
	H	75	2.87	1.91	1.43	0.96	0.72	0.52
	V	90	0.64	0.42	0.32	0.21	0.16	0.12

Factors affecting the choice of shaft seal include the hydraulic motor housing pressure and the drainage oil temperature.

Code according to Versions,main data.

The drainage oil should have a maximum temperature of 75 °C with a Nitrile shaft seal and 90 °C with a Viton shaft seal.
These temperatures must not be exceeded.

SCM 012 - 34 SAE B2 Motors

Versions, Main Data

Example **M - 034 W / N - B2 S / U**

Type:
M Motor with fixed displacement

Size:
012 Displacement cm³/rev.
017
025
034

Direction of rotation:
W Independent

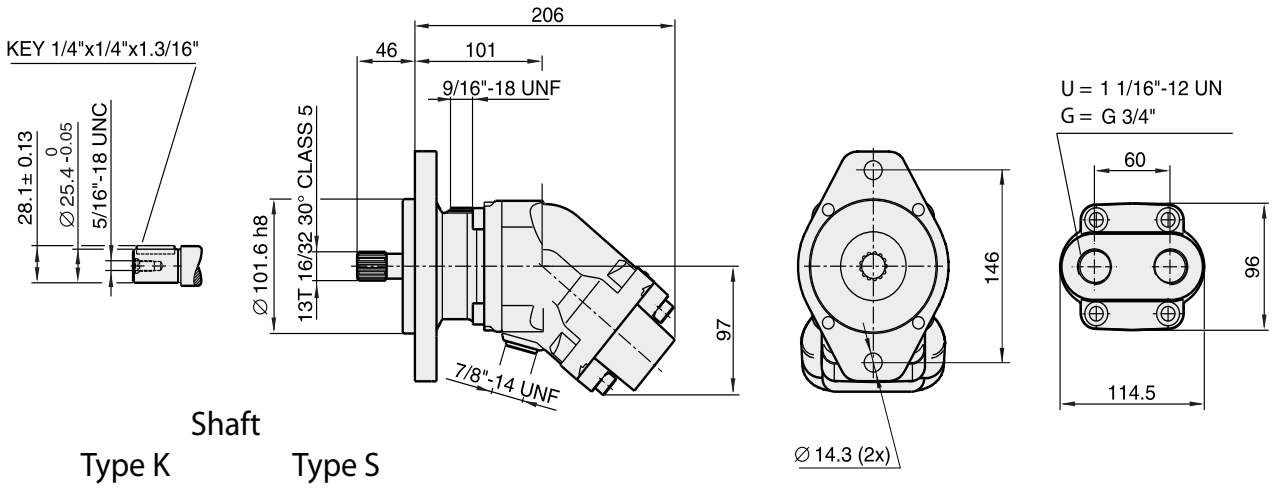
Shaft seal:
N Nitrile
H Nitrile, high pressure
V Viton, high temperature

Mountin g flange:
SCM 012-034 SAE B
B2 SAE B (SAE J744)

Type of shaft:
SCM 012-034 SAE B
S Spline shaft (SAE J 498 b) 13 T 16/32 30° CLASS 5
SCM 012-034 SAE B
K Key shaft (SAE J744) Ø 25.4

Connections:
SCM 012-034
U UN thread
SCM 012-034
G ISO thread

Installation Drawings



Shaft

Type K Type S

SCM 034 - 108 M2 Motors

General Information

The SCM-M2 series motor is a range of robust axial piston motors expecially suitable for winch, slewing, wheel and track drives.
The SCM-M2 series motor is of the bent-axis type with spherical pistons. The design results in a compact motor with few moving parts, high starting torque and high reliability.
The SCM-M2 series motors covers the entire displacement range 47- 108 cm^3/n. at a maximum working pressure of 40 MPa.
The SCM-M2 series motors is well dimensioned, double tapered roller bearings permit high shaft loads and lead to excellent speed characteristics.
The SCM-M2 high level of reliability is based on the choice of materials, hardening methods, surface structures and the quality assured manufacturing process.

Technical Information

Type SCM.....M2		034	047	056	064	084	090	108
Displacement	cm^3/giro	34.2	47.1	56.0	63.5	83.6	90.7	108.0
Working pressure								
max. intermittent	MPa	42	42	42	42	42	42	42
max. continuous	MPa	37	37	37	37	37	37	37
Speed								
max. intermittent	n/min.	7000	6300	6300	6300	5200	5200	5200
max. continuous	n/min.	6300	5700	5700	5700	4700	4700	4700
min. contiunuos	n/min.	300	300	300	300	300	300	300
Power								
max intermittent	kW	115	145	175	195	215	230	275
max continuous	kW	55	65	80	90	100	110	130
Starting torque (theoretical value)	Nm/MPa	5.4	7.5	8.9	10.0	13.3	14.4	17.1
Mass moment of inertia (x 10^{-3})	kg. m^2	1.1	2.6	2.6	2.6	7.4	7.4	7.4
Weight	kg	11.0	18.3	18.3	18.3	26.0	26.0	26.0

Data concerning the speed are based on the maximum permitted peripheral velocity for the tapered roller bearings.
Intermittent power data are based on maximum continuous speed and maximum working pressure.
Continuous power data are based on maximum output power without external cooling of the motor housing.
Intermittent duty is defined as follows: max. 6 seconds per minute, e g peak RPM when unloading or accelerating.

SCM 034 - 108 M2 Motors

Versions, Main Data

Example **M - 064 W/N - M2 A / F - V**

Type:
M Motor with fixed displacement

Size:
034 Displacement cm³/rev.
047
056
064
084
090
108

Direction of rotation:
W Reversible

Shaft seal:
N Nitrile
H Nitrile, high pressure
V Viton, high temperature

Mounting flange:
M2 Special flange, 2 holes

Type of shaft:
Spline shaft (DIN 5480)

	A	C	E
SCM 034	W30x2x14x9g		W30x2x14x9g
SCM 047–064	W35x2x16x9g	—	
SCM 084–108	W40x2x18x9g	W35x2x16x9g	

Connections:
SCM 034–108 F Flange (SAE J518, code 62)

Connection cover
SCM 034–108 V Angled 90° to the shaft center line

Choice of Shaft Seal

		Temp.	Max. housing pressure MPa at rpm						
Motor SCM	Code	°C	1000	2000	3000	4000	5000	6000	7000
034 –064	N	75	0.55	0.27	0.18	0.14	0.11	0.09	0.08
	H	75	2.46	1.23	0.82	0.61	0.49	0.41	0.35
	V	90	0.55	0.27	0.18	0.14	0.11	0.09	0.08
084–108	N	75	0.38	0.19	0.13	0.10	0.08	0.06	
	H	75	1.72	0.86	0.57	0.43	0.34	0.29	
	V	90	0.38	0.19	0.13	0.10	0.08	0.06	

Subject to design modifications without notice

Factors affecting the choice of shaft seal include the hydraulic motor housing pressure and the drainage oil temperature.

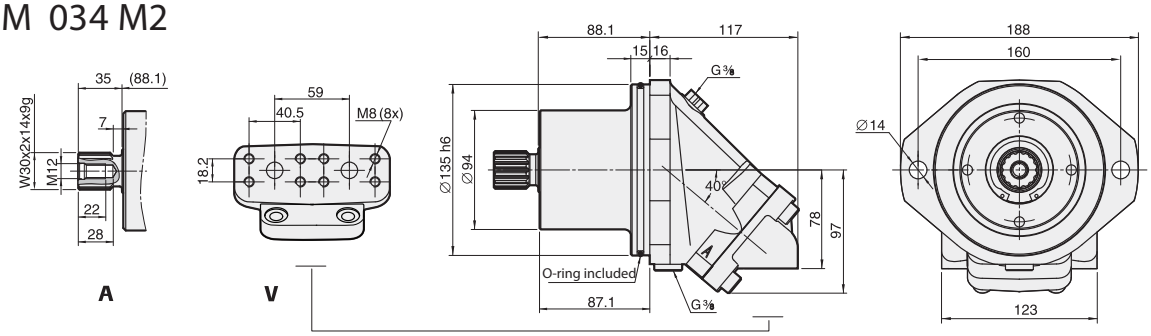
The drainage oil should have a maximum temperature of 75 °C with a Nitrile shaft seal and 90 °C with a Viton shaft seal. These temperatures must not be exceeded.

Code according to Versions, main data.

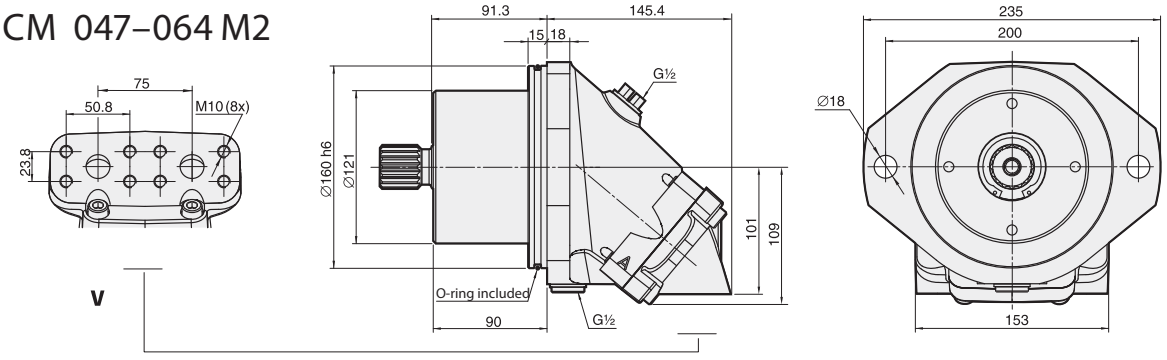
SCM 034 - 108 M2 Motors

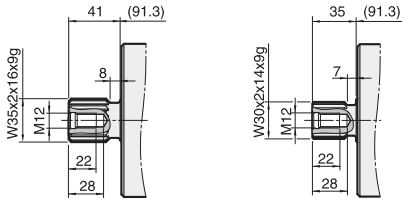
Installation Drawings

SCM 034 M2

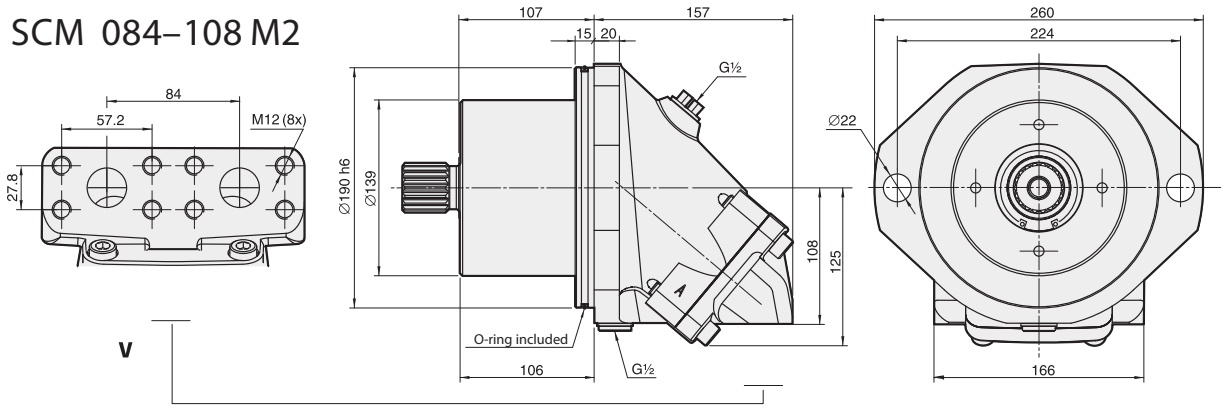


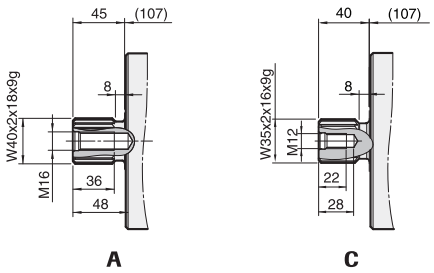
SCM 047–064 M2





SCM 084–108 M2





SCM 034 - 108 M2 Motors

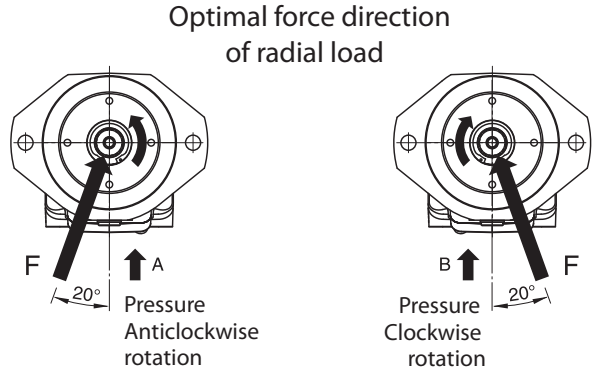
General Instructions

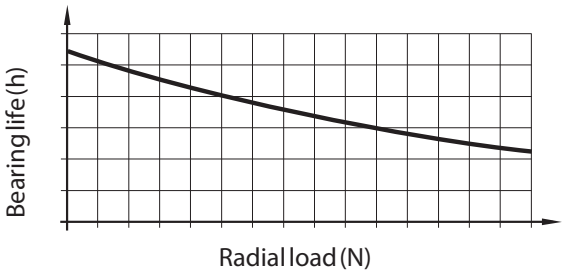
Shaft loads

The life of the motor is highly dependent on the bearing life.

The bearings are affected by operation conditions such as speed, pressure, oil viscosity and filtration. External load on the shaft, as well as its size, direction and location also affect the bearing life.

For calculation of bearing life in special applications, please contact our Tech Dpt.

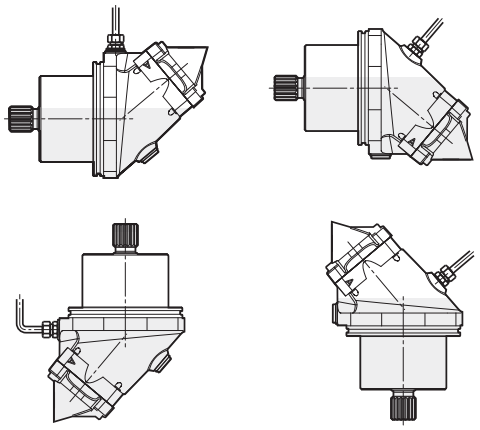




Installation

The motor housing should be filled with oil to at least 50% before starting. The drainage pipe should be connected to topmost drainage outlet.

The other end of the pipe should be connected to the oil tank at a point below the oil level.



Piping

Recommended oil velocity in pressure line max. 7 m/sec.

Filtering

Cleanliness according to ISO norm 4406, code 16/13.

SCM 034 - 108 M2 Motors

General Instructions

Temperatures/Housing cooling

Excessive system temperature reduces the life of the shaft seal and can lower the oil viscosity below the recommended level. A system temperature of 60 °C and a drain flow temperature of 90 °C must not be exceeded.
Cooling/flushing of the motor housing can be needed to keep the drain flow temperature at an acceptable level.

Suggested flow:

Motor SCM	Flushing l/min	Cont. RPM
034	2-8	≥ 2500
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Housing flushing can be built up with the help of a flushing valve or taken directly from the return line. When the return pressure is too low this is compensated for by a counter pressure valve.
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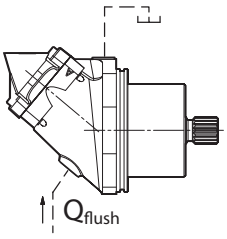

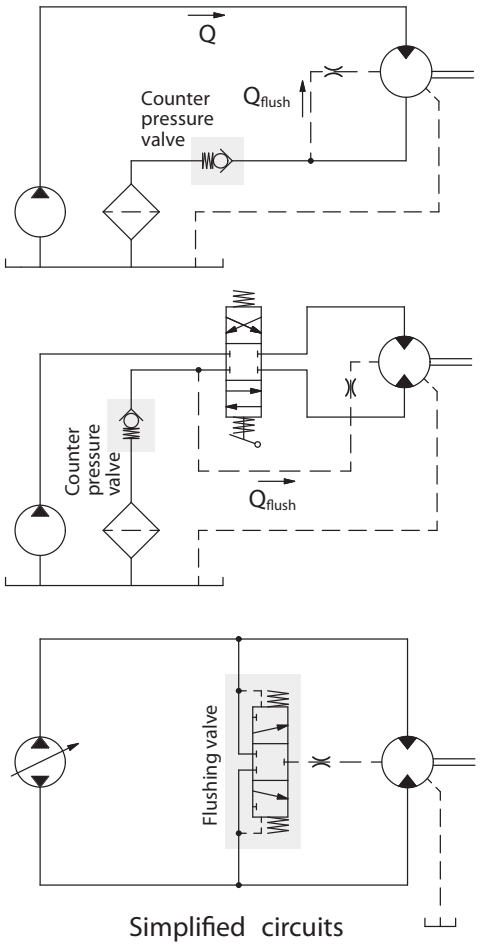

Simplified circuits

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Speed $n = \frac{Q \times 1000 \times \eta_v}{D}$ RPM

Torque $M = \frac{D \times \Delta p \times \eta_{hm}}{6.3}$ Nm

Power $P = \frac{Q \times \Delta p \times \eta_t}{60}$ kW

D = displacement, cm³/revolution
n = speed, revolution/min
P = power, kW
Q = flow rate, litres/min
η_v = volumetric efficiency
η_{hm} = hydraulic-mechanical efficiency
η_t = overall efficiency = $\eta_v \times \eta_{hm}$
M = torque, Nm
Δp = pressure difference between the hydraulic motor inlet and outlet, MPa

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.

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