

Results

in
meters

Frictional moment - power loss : NU 306 ECP

Result

M_{lr} Rolling frictional moment	1,47 in.lbf
M_{ls} Sliding frictional moment	0,264 in.lbf
M_{seal} Frictional moment of the seals	0 in.lbf
M_{drag} Frictional moment of drag losses	0,111 in.lbf
M Total frictional moment	1,84 in.lbf
N Power loss	64,32 ft.lbf/s
M_{start} Starting torque	1,81 in.lbf
ν Lubricant viscosity at operating temperature	11 mm ² /s
K_{re} Replenishment/starvation constant	3.0E-8

Input parameters

F_r Radial load	4000 lbf
n_i Rotational speed of the inner ring	4000 r/min
Operating temperature Bearing outer ring	180 °F
Viscosity calculation input type Select from list	Viscosity input at 104.0 °F (VI is 95)
Viscosity at 104.0 °F	50 mm ² /s
Lubrication Select from list	Oil jet
H Oil bath level	0,217 in

Unit system

Select unit system

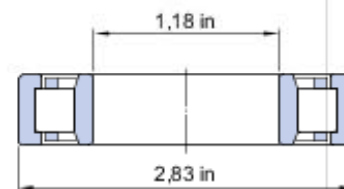
☐ SI ☒ Imperial

Selected calculations

Frictional moment - power loss

Remove

Bearing data



Designation NU 306 ECP *

d 1.18 in
 D 2.83 in
 C 13151 lbf
 C_0 10791 lbf
Type Cylindrical roller bearing

* SKF Explorer bearing

[View bearing details](#)

Note: The drawing displayed is only for general representation and may not be identical to the selected bearing variant.

Results

Frictional moment - power loss : NU 306 ECP

Frictional moment - power loss : NU 306 ECP

Result

M_r Rolling frictional moment	1,57 in.lbf
M_s Sliding frictional moment	0,33 in.lbf
M_{seal} Frictional moment of the seals	0 in.lbf
M_{drag} Frictional moment of drag losses	0,111 in.lbf
M Total frictional moment	2,01 in.lbf
N Power loss	70,29 ft.lbf/s
M_{start} Starting torque	2,26 in.lbf
ν Lubricant viscosity at operating temperature	11 mm ² /s
K_{re} Replenishment/starvation constant	3.0E-8

Warning

The bearing load is high ($C/P=591,31$). Please contact SKF Application Engineering.

Input parameters

F_r Radial load	5000 lbf
n Rotational speed of the inner ring	4000 r/min
Operating temperature Bearing outer ring	180 °F
Viscosity calculation input type Select from list	Viscosity input at 104.0 °F (VI is 95)
Viscosity at 104.0 °F	50 mm ² /s
Lubrication Select from list	Oil jet

Unit system

Select unit system

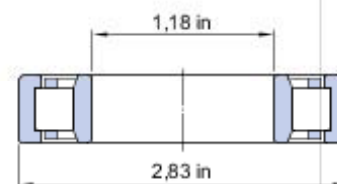
☐ SI ☒ Imperial

Selected calculations

Frictional moment - power loss

Remove

Bearing data



Designation NU 306 ECP *

d 1.18 in
 D 2.83 in
 C 13151 lbf
 C_0 10791 lbf
Type Cylindrical roller bearing

* SKF Explorer bearing

[View bearing details](#)

Note: The drawing displayed is only for general representation and may not be identical to the selected bearing variant.

Results

Frictional moment - power loss : NU 306 ECP +

Frictional moment - power loss : NU 306 ECP +

Frictional moment - power loss : NU 306 ECP +

Frictional moment - power loss : NU 306 ECP -

Result

M_r Rolling frictional moment	0.864 in.lbf
M_s Sliding frictional moment	0.777 in.lbf
M_{seal} Frictional moment of the seals	0 in.lbf
M_{drag} Frictional moment of drag losses	0.0189 in.lbf
M Total frictional moment	1.66 in.lbf
N Power loss	21.76 ft.lbf/s
M_{start} Starting torque	1.81 in.lbf
ν Lubricant viscosity at operating temperature	11 mm ² /s
K_s Replenishment/starvation constant	3.0E-8

Input parameters

F_r Radial load	4000 lbf
n_i Rotational speed of the inner ring	1500 r/min
Operating temperature Bearing outer ring	180 °F
Viscosity calculation input type Select from list	Viscosity input at 104.0 °F (VI is 95)
Viscosity at 104.0 °F	50 mm ² /s
Lubrication Select from list	Oil jet

Unit system

Select unit system

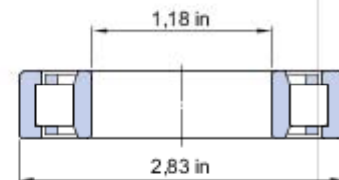
☐ SI ☒ Imperial

Selected calculations

Frictional moment - power loss

[Remove](#)

Bearing data



Designation NU 306 ECP *

d	1.18 in
D	2.83 in
C	13151 lbf
C ₀	10791 lbf
Type	Cylindrical roller bearing

* SKF Explorer bearing

[View bearing details](#)

Note: The drawing displayed is only for general representation and may not be identical to the selected bearing variant.

Results

Frictional moment - power loss : NU 306 ECP +

Frictional moment - power loss : NU 306 ECP +

Frictional moment - power loss : NU 306 ECP -

Result

M_{rr} Rolling frictional moment	2.01 in.lbf
M_{rs} Sliding frictional moment	0.241 in.lbf
M_{seal} Frictional moment of the seals	0 in.lbf
M_{drag} Frictional moment of drag losses	0.423 in.lbf
M Total frictional moment	2.67 in.lbf
N Power loss	186,46 ft.lbf/s
M_{start} Starting torque	1,81 in.lbf
ν Lubricant viscosity at operating temperature	11 mm ² /s
K_{re} Replenishment/starvation constant	3.0E-8

Input parameters

F_r Radial load	4000 lbf
n_i Rotational speed of the inner ring	8000 r/min
Operating temperature Bearing outer ring	180 °F
Viscosity calculation input type Select from list	Viscosity input at 104.0 °F (VI is 95)
Viscosity at 104.0 °F	50 mm ² /s
Lubrication Select from list	Oil jet
H Oil bath level	0.217 in

Unit system

Select unit system

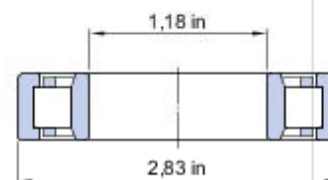
☐ SI ☒ Imperial

Selected calculations

Frictional moment - power loss

Remove

Bearing data



Designation NU 306 ECP *

d 1.18 in
 D 2.83 in
 C 13151 lbf
 C_0 10791 lbf
Type Cylindrical roller bearing

* SKF Explorer bearing

[View bearing details](#)

Note: The drawing displayed is only for general representation and may not be identical to the selected bearing variant.