

# Ready-to Use Calibration Solutions

## **Pump Systems Designed for Your Specific Requirements**

METEK offers a variety of solutions for pressure generation and measurement. Our line of products for pressure generation includes everything from small pneumatic hand pumps to a precision, hydraulic pressure comparator capable of generating up to 15 000 psi/1000 bar/100 MPa.

All of our pumps may be ordered as part of a Pump System, complete with a Crystal Reference Indicator and delivered in a sturdy carrying case with custom insert.

#### **Key** Features & Options

- ► Easy to use fine adjustments.
- ► CPF Fittings and Hoses.
- ▶ Oil or water compatible.
- ▶ Wide pressure ranges.
  - U.S. Patent No. 8,794,677





# Pump Systems Overview

Pump									Case Options
System	Part Number	Pressure Range	Pneumatic	Hydraulic	Hand Pump	Bench Top	Included Pump	Aluminum	Waterproof (Pelican Case)
System A	AXX	0 to 30psi /2 bar	•		-		T-960-CPF	•	<b>■</b>
System A	AHX	0 to 580 psi /40 bar	•		•		T-970-CPF		<b>.</b>
System B	BXX	-25 inHg to 30 psi /-0.85 to 2 bar	•		-		T-965-CPF	• (4	<b>o</b> r) —
System b	ВНХ	-27 inHg to 580 psi /-0.91 to 40 bar	•		-		T-975-CPF	•	•
System C	CXX	0 to 3000 psi/200 bar		(Oil)	-		T-620-CPF	•	<b>o</b> r) —
System C	CHX	0 to 5000 psi /350 bar		Oil)	•		T-620H-CPF	•	•
System D	DOX	0 to 5000 psi /350 bar		■ (Oil)		-	P-018-CPF	•	
System B	DWX	0 to 5000 psi /350 bar		■ (Water)		-	1	-	
System E	EOX	0 to 10 000 psi /700 bar		■ (Oil)		•	P014-CPF	•	
System F	FOV	0 to 15 000 psi /1000 bar		■ (Oil)		-	T-1-CPF	•	
System r	FWV	0 to 15 000 psi /1000 bar		■ (Water)		-	A	-	
System G	GOX	0 to 15 000 psi /1000 bar		(Oil)		-	GaugeCalHP		•
System d	GWX	0 to 15 000 psi /1000 bar		(Water)		-			•
System H	нох	-27 inHg to 580 psi /-0.91 to 40 bar	•		-		T-975-CPF — (and) —		•
Jystem II	110%	0 to 5000 psi /350 bar		■ (Oil)	•		T-620H-CPF		•



# Systems A & B

### **Pump** Overview

-900 Series pneumatic pressure pumps feature an extended range fine adjust for precise control of pressure. A built-in relief valve and dual pressure output enable safe and simple operation. The T-965 and T-975 are available with a button valve, making them capable of switching easily from pressure to vacuum generation.



Pump				
System	Presure	Vacuum	Pressure Range	Pump
AXX			0 to 30psi /2 bar	T-960-CPF
BXX	•	•	-25 inHg to 30 psi /-0.85 to 2 bar	T-965-CPF
AHX	•		0 to 580 psi /40 bar	T-970-CPF
внх	•	•	-27 inHg to 580 psi /-0.91 to 40 bar	T-975-CPF





#### Parts Included with Pump Systems A and B

		Syste	em A	Syste	em B
Part Number	Description	AXX	AHX	BXX	BHX
5238	3/8" BSP Male to CPF Male Fitting	•		•	
5252	5/16-24 SAE Male to CPF Female Fitting	•	•	•	
MPF-1/4FPT	CPF Female to 1/4" NPT Female Fitting	•		•	
MPF-1/4BSPF	CPF Female to 1/4" BSP Female Fitting	•	•	•	
MPF-1/8MPT	1/8" MPT Fitting (for 30 Series Calibrator)	<b>(</b> 2)	<b>(</b> 2)	<b>(</b> 2)	<b>(</b> 2)
MPH-1	1 meter CPF Male Hose	•	•	•	
60R120	1/4" Bonded Seals	<b>(</b> 5)	<b>(</b> 5)	<b>(</b> 5)	<b>(</b> 5)
50-REP700	O-ring and Lock Clip	<b>(</b> 5)	<b>(</b> 5)	<b>(</b> 5)	<b>(</b> 5)
1351	Test Leads; Red & Black, including clips (for 30 Series)			•	
5249	Protective Vinyl Cap	<b>(</b> 4)	<b>(</b> 4)	<b>(</b> 4)	<b>(</b> 4)
601104	Pack Tape (1 roll)			•	
124004	Shoulder Strap		•	•	
124110	Aluminum Carrying Case (for nVision, HPC40 Series, and 30 Series)			•	
125254	Aluminum Carrying Case (for XP2i and m1)	•	•	•	
2888*	Waterproof Carrying Case (for all gauges)				

#### **Carrying Case Options**

Pump Systems A and B are delivered with an Aluminum Carrying Case.

\*Alternately, they may be ordered with a Waterproof Carrying Case by entering -W in the pump system ordering code. The Shoulder Strap and the Aluminum Carrying Case will be replaced by the Waterproof Carrying Case.



#### **Ordering a Pump System**

Any T-900 Series Pump System may be ordered with or without a reference indicator. The table below provides an explanation of the Pump System ordering scheme when ordering a system without an indicator. For details on ordering the Pump Systems with an indicator, see the indicator datasheet.

Reference Indicator	Pump System	Carrying Case
nVision NV-NONE	System A (T-960-CPF)AXX	Aluminum (omit)
30 Series <b>IS30-NONE</b>	System A (T-970-CPF)AHX	Waterproof W
HPC40 Series HPC40-NONE	System B (T-965-CPF)BXX	
HPC50 Series HPC50-NONE	System B (T-975-CPF)BHX	
XP2i XP2i-NONE		
m1		

### SAMPLE PART NUMBERS

NV-NONE-AXX....... System A pump system (for nVision) with an aluminum carrying case.

M1-NONE-BXX-W.... System B pump system (for m1) with a waterproof carrying case.

1KPSIXP2i-AXX-W... System A pump system in a waterproof carrying case, with an XP2i gauge (1000 psi).



# System C

### **Pump** Overview

-600 Series is a lightweight and portable hydraulic hand pump, specially designed for high pressure applications. A fine adjust allows precise control of pressure, while a vent valve provides quick and positive shut-off and pressure release. The pump is compatible with petroleum-based oils or hydraulic fluids.



Pump		
System	Pressure Range	Pump
CXX	0 to 3000 psi/200 bar	T-620-CPF
СНХ	0 to 5000 psi/350 bar	T-620H-CPF





#### Parts Included with Pump System C

		Syste	em C
Part Number	Description	CXX	CHX
MPF-1/4FPT	CPF Female to 1/4" NPT Female Fitting	•	
MPF-1/4BSPF	CPF Female to 1/4" BSP Female Fitting		•
MPF-1/8MPT*	CPF Female to 1/8" NPT Male Fitting	•	
MPM-PLUG	CPF Male Plug Fitting	•	-
MPF-CAP	CPF Female Cap Fitting	•	•
MPH-1	1 meter CPF Male Hose	•	•
60R120	1/4" Bonded Seals	<b>(</b> 5)	<b>(</b> 5)
1351	Test Leads; Red & Black, including clips (for 30 Series)	•	-
5249	Protective Vinyl Cap	<b>(</b> 4)	<b>(</b> 4)
601104	Pack Tape (1 roll)	•	-
124004	Shoulder Strap	•	
124299	Aluminum Carrying Case (for nVision and 30 Series)	•	-
125255	Aluminum Carrying Case (for XP2i and m1)	•	
2888 **	Waterproof Carrying Case		

#### **Carrying Case Options**

Pump Systems C are delivered with an Aluminum Carrying Case. \*Alternately, they may be ordered with a Waterproof Carrying Case by entering -W in the pump system ordering code. The Shoulder Strap and the Aluminum Carrying Case will be replaced by the Waterproof Carrying Case.



#### Ordering a Pump System

Any T-600 Series Pump System may be ordered with or without a reference indicator. The table below provides an explanation of the Pump System ordering scheme when ordering a system without an indicator. For details on ordering the Pump Systems with an indicator, see the indicator datasheet.

Reference Indicator	Pump System	Carrying Case	
nVision NV-NONE	System C (T-620-CPF)CXX	Aluminum (omit)	
30 Series <b>IS30-NONE</b>	System C (T-620H-CPF)CHX	Waterproof W	
HPC40 Series HPC40-NONE			
HPC50 Series HPC50-NONE			
XP2i XP2i-NONE			
m1 M1-NONE			

#### ► SAMPLE PART NUMBERS

NV-NONE-CXX ....... System C pump system (for nVision) with an aluminum carrying case.

M1-NONE-CHX-W.... System C pump system (for m1) with a waterproof carrying case.

 ${\bf 3KPSIXP2i\text{-}CXX\text{-}W} \ \dots \ \text{System C pump system in a waterproof carrying case, with an XP2i gauge (3000 psi)}.$ 



<sup>\*</sup> When a Pump System C is ordered for a 30 Series Calibrator, two (2) additional MPF-1/8MPT fittings are included

# System D

## **Pump** Overview

P-018 hydraulic screw pumps produce pressure with superior control. The adjustable reference pressure port lets you set your reference gauge at the best viewing angle.

### **Key** Features

- ► Generates 5000 psi/350 bar.
- ► Easy-to-use fine adjust.
- ► Adjustable reference port.
- ► Compatible with water or oil.

Learn more here ◀

Pump				
System	Pressure Range	Test Media	Media Specifics	Pump
DOX	0 to 5000 psi/350 bar	Hydraulic Oil	Rando HDZ32	P-018-CPF
DWX	0 to 5000 psi/350 bar	Water	Distilled Water	P-018-CPF





#### Parts Included with Pump System D

		System D
Part Number	Description	DOX and DWX
MPM-1/4BSPM	CPF Male to Screw Pump Adapter	<b>(</b> 2)
5254	1/4" BSP Female to 1/4" BSP Female Fitting	•
MPF-1/4FPT	CPF Female to 1/4" NPT Female Fitting	•
MPF-1/4BSPF	CPF Female to 1/4" BSP Female Fitting	•
MPF-1/8MPT	1/8" MPT Fitting (for 30 Series Calibrator)	<b>(</b> 2)
MPF-CAP	CPF Female Cap Fitting	•
SPK-HPC-004	1/4" BSP Male to 1/4" BSP Male Banjo Connector	•
60R955	1/4" Male BSP Plugs	<b>(</b> 4)
60R120	1/4" Bonded Seals	<b>(</b> 5)
60P013	1/4" BSP Male Fine Adjust	•
1351	Test Leads; Red & Black, including clips (for 30 Series)	•
5249	Protective Vinyl Cap	<b>(</b> 4)
601104	Pack Tape (1 roll)	•
60R159	Allen Key	•
124004	Shoulder Strap	•
124301	Aluminum Carrying Case	•

#### **Carrying Case**

Pump System D is delivered with an Aluminum Carrying Case.



#### Ordering a Pump System

Any P-Series Pump System may be ordered with or without a reference indicator. The table below provides an explanation of the Pump System ordering scheme when ordering a system without an indicator. For details on ordering the Pump Systems with an indicator, see the indicator datasheet.

Reference Indicator	Pump System
nVision NV-NONE	System D (P-018-CPF)DOX
30 Series <b>IS30-NONE</b>	System D (P-018-CPF)DWX
HPC40 Series HPC40-NONE	
HPC50 Series HPC50-NONE	
XP2i XP2i-NONE	
m1	

#### ► SAMPLE PART NUMBERS

NV-NONE-DOX...... System D pump system (for nVision) for use with oil.

IS30-NONE-DWX... System D pump system (for 30 Series) for use with water.

5KPSIXP2i-DWX... System D pump system for use with water, with an XP2i gauge (5000 psi).



# System E

## **Pump** Overview

Po14 hydraulic jack pumps are designed for high pressure oil applications. Its small size and light weight makes it a sensible, rugged and portable pressure generating solution.

### **Key** Features

- ► Generates 10 000 psi/700 bar.
- ▶ Small, and light weight.
- Easy-to-use fine adjust.
- ► Four pressure output manifold.

Learn more here ◀

## **System** Overview





SENSORS, TEST & CALIBRATIO

#### Parts Included with Pump System E

		System E
Part Number	Description	EOX
MPM-1/4BSPM	CPF Male to Screw Pump Adapter	<b>(</b> 2)
5254	1/4" BSP Female to 1/4" BSP Female Fitting	•
MPF-1/4FPT	CPF Female to 1/4" NPT Female Fitting	•
MPF-1/4BSPF	CPF Female to 1/4" BSP Female Fitting	•
MPF-1/8MPT	1/8" MPT Fitting (for 30 Series Calibrator)	<b>(</b> 2)
MPF-CAP	CPF Female Cap Fitting	•
SPK-HPC-004	1/4" BSP Male to 1/4" BSP Male Banjo Connector	•
60R955	1/4" Male BSP Plugs	<b>(</b> 4)
60R120	1/4" Bonded Seals	<b>(</b> 5)
60P013	1/4" BSP Male Fine Adjust	•
1351	Test Leads; Red & Black, including clips (for 30 Series)	•
5249	Protective Vinyl Cap	<b>(</b> 4)
60l104	Pack Tape (1 roll)	•
60R159	Allen Key	•
124004	Shoulder Strap	•
124303	Aluminum Carrying Case	•

#### **Carrying Case**

Pump System E is delivered with an Aluminum Carrying Case.



#### Ordering a Pump System

Any P014 Pump System may be ordered with or without a reference indicator. The table below provides an explanation of the Pump System ordering scheme when ordering a system without an indicator. For details on ordering the Pump Systems with an indicator, see the indicator datasheet.

Reference Indicator	Pump System
nVision NV-NONE	System E (P014-CPF)EOX
30 Series <b>IS30-NONE</b>	
HPC40 Series HPC40-NONE	
HPC50 Series HPC50-NONE	
XP2i XP2i-NONE	
m1 M1-NONE	

#### SAMPLE PART NUMBERS

NV-NONE-EOX....... System E pump system (for nVision) for use with oil.

IS30-NONE-EOX...... System E pump system (for 30 Series) for use with oil.

5KPSIXP2I-EOX..... System E pump system for use with oil, with an XP2i gauge (5000 psi).



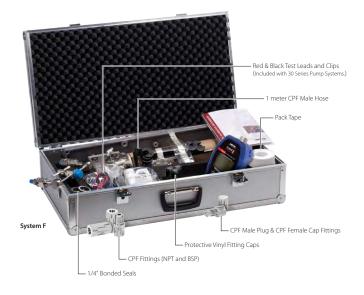
# System F

## **Pump** Overview

Series is a high volume hydraulic comparator capable of producing pressure up to 15 000 psi/1000 bar. This unit is ideal for testing and calibrating pressure gauges, relief valves, and pressure switches.

Pump				
System	Pressure Range	Test Media	Media Specifics	Pump
FOV	0 to 15 000 psi/1000 bar	Hydraulic Oil	Rando HDZ32	T-1-CPF
FWV	0 to 15 000 psi/1000 bar	Water	Distilled Water	T-1-CPF







#### Parts Included with Pump System F

		System F
Part Number	Description	FOV and FWV
5255	CPF Male to 15/16-20 Male Adapter	<b>(</b> 2)
MPF15K-1/4FPT	CPF Female to 1/4" NPT Female Fitting	•
MPF-1/4BSPF	CPF to 1/4" BSP Female Fitting	•
MPF-1/8MPT	1/8" MPT Fitting (for 30 Series Calibrator)	<b>(</b> 2)
60R120	1/4" Bonded Seals	<b>(</b> 5)
1351	Test Leads; Red & Black, including clips (for 30 Series)	•
5249	Protective Vinyl Cap	<b>(</b> 4)
601104	Pack Tape (1 roll)	•
124004	Shoulder Strap	•
124304	Aluminum Carrying Case	•

#### **Carrying Case**

Pump System F is delivered with an Aluminum Carrying Case.



#### Ordering a Pump System

Any Type T Series Pump System may be ordered with or without a reference indicator. The table below provides an explanation of the Pump System ordering scheme when ordering a system without an indicator. For details on ordering the Pump Systems with an indicator, see the indicator datasheet.

Reference Indicator	Pump System
nVision NV-NONE	System F (T-1-CPF)F6
30 Series <b>IS30-NONE</b>	System F (T-1-CPF)F
HPC40 Series HPC40-NONE	
HPC50 Series HPC50-NONE	
XP2i XP2i-NONE	
m1M1-NONE	

#### ► SAMPLE PART NUMBERS

NV-NONE-FOV ...... System F pump system (for nVision) for use with oil.

IS30-NONE-FWV ... System F pump system (for 30 Series) for use with water.

15KPSIXP2i-FWV ... System F pump system for use with water, with an XP2i gauge (15 000 psi).



# System G

## **Pump** Overview

augeCalHP is a self-contained, precision hydraulic pressure comparator intended for the calibration of pressure gauges, transmitters, sensors, and safety valves rated up to 15 000 psi / 1000 bar. You may fill the comparator with your choice of water or oil.

The GaugeCalHP is much faster than deadweight testers and most automated pressure controllers; and it's so quick and easy to use,

it's ideal for calibrating those low cost gauges that are often overlooked for ISO9000 compliance.

Learn more here ◀

Pump				
System	Pressure Range	Test Media	Media Specifics	Pump
GOX	0 to 15 000 psi/1000 bar	Hydraulic Oil	Rando HDZ32	GaugeCalHP
GWX	0 to 15 000 psi/1000 bar	Water	Distilled Water	GaugeCalHP



#### Parts Included with Pump System G

		System G
Part Number	Description	GOX and GWX
MPF15K-1/4FPT	CPF Female to 1/4" NPT Female Fitting	
MPF-1/4BSPF *	CPF Female to 1/4" BSP Female Fitting	-
MPF-1/8MPT*	1/8" MPT Fitting (for 30 Series Calibrator)	<b>(</b> 2)
MPF-CAP*	CPF Female Cap Fitting	<b>(</b> 2)
60R120	1/4" Bonded Seals	<b>(</b> 5)
5102	Fine Adjust (installed)	-
1351	Test Leads; Red & Black, including clips (for 30 Series)	
5249	Protective Vinyl Cap	<b>(</b> 4)
601104	Pack Tape (1 roll)	
5101	Rolling Waterproof Carrying Case	-

<sup>\*</sup> These fittings are rated to 10 000 psi/700 bar.

#### **Carrying Case**

Pump System G is delivered with a rolling, Waterproof Carrying Case.



#### Ordering a Pump System

m1..... M1-NONE

Any GaugeCalHP Pump System may be ordered with or without a reference indicator. The table below provides an explanation of the Pump System ordering scheme when ordering a system without an indicator. For details on ordering the Pump Systems with an indicator, see the indicator datasheet.

Reference Indicator	Pump System	Carrying Case
nVision NV-NONE	System G (GaugeCalHP–oil)GOX	Waterproof W
30 Series <b>IS30-NONE</b>	System G (GaugeCalHP–water)GWX	
HPC40 Series HPC40-NONE		
HPC50 Series HPC50-NONE		
XP2i XP2i-NONE		

#### SAMPLE PART NUMBERS

NV-NONE-GOX-W ........System G pump system for an nVision, for use with oil, in a waterproof carrying case.

IS30-NONE-GWX-W ....System G pump system for an nVision, for use with water, in a waterproof carrying case..

15KPSIXP2i-GWX-W ....System G pump system for use with water, with an XP2i gauge (15 000 psi), in a waterproof carrying case..



# System H

### **Pumps** Overview

-900 Series pneumatic pressure pumps feature an extended range fine adjust for precise control of pressure and vacuum, while a vent valve provides quick and positive shut-off and pressure release.
T-600 Series are lightweight, portable hydraulic handpumps, specially designed for high pressure applications.

Pump				
System	Presure	Vacuum	Pressure Range	Pump
HOY		•	-27 inHg to 580 psi /-0.91 to 40 bar	T-975-CPF
нох			0 to 5000 psi /350 bar	T-620H-CPF





### Parts Included with Pump Systems H

		System H
Part Number	Description	HOX
5238	3/8" BSP Male to CPF Male Fitting	•
5252	5/16-24 SAE Male to CPF Female Fitting	•
MPF-1/4FPT	CPF Female to 1/4" NPT Female Fitting	<b>(</b> 2)
MPF-1/4BSPF	CPF Female to 1/4" BSP Female Fitting	<b>(</b> 2)
MPF-1/8MPT	1/8" MPT Fitting (for 30 Series Calibrator)	<b>(</b> 2)
MPM-PLUG	CPF Male Plug Fitting	
MPF-CAP	CPF Female Cap Fitting	
MPH-1	1 meter CPF Male Hose	<b>(</b> 2)
60R120	1/4" Bonded Seals	<b>(</b> 5)
50-REP700	O-ring and Lock Clip	<b>(</b> 5)
1351	Test Leads; Red & Black, including clips (for 30 Series)	•
5249	Protective Vinyl Cap	<b>(</b> 4)
601104	Pack Tape (1 roll)	
124004	Shoulder Strap	
124110	Aluminum Carrying Case (for nVision and 30 Series)	
2888	Waterproof Carrying Case	•

#### **Carrying Case**

Pump System H is delivered with a Waterproof Carrying Case.



#### **Ordering a Pump System**

Any Pump System H may be ordered with or without a reference indicator. The table below provides an explanation of the Pump System ordering scheme when ordering a system without an indicator. For details on ordering the Pump Systems with an indicator, see the indicator datasheet.

Reference Indicator	Pump System	Carrying Case
nVision NV-NONE	System H (T-975-CPF and T-620H-CPF)HOX	Waterproof W
30 Series <b>IS30-NONE</b>		
HPC40 Series HPC40-NONE		
HPC50 Series HPC50-NONE		
XP2i XP2i-NONE		
m1		

#### ► SAMPLE PART NUMBERS

NV-NONE-HOX-W . . . . . System H pump system (for nVision) with a waterproof carrying case.

M1-NONE-HOX-W . . . . . System H pump system (for m1) with a waterproof carrying case.

5KPSIXP2i-HOX-W . . . . System H pump system in a waterproof carrying case, with an XP2i gauge (5000 psi).





Dear Calibration Professional,

You're already familiar with the family of high quality AMETEK calibrators and pressure gauges.

The same relentless pursuit of perfection invested in our gauges; and that spurred the design of CPF the industry's safest test fitting line—also drives us to create top-quality pressure generation systems.

We know, just as you do, that the best calibrators are only as good as their support equipment.

Our pumps and Pump Systems deliver exactly what you need for field and lab calibration: reference indicators, fittings, hoses, and accessories, all packed inside sturdy and portable cases.

From rugged and effective pumps, to the best fittings and hoses, to time-saving software—we've thought

These are your tools for pressure calibration; the ones you use over and over, every day. Doesn't it make sense to buy the best?

Working for you,

The AMETEK Team

## **CrystalCalHP**

### **Everything You Need** for Ultra-Fast, Error-Free **Calibrations**

10-point up and down calibrations in under 3 minutes. CrystalCalHP-PSI includes:

- One GaugeCalHP pressure comparator.
- One copy of FastCalXP calibration software, with footswitch.
- Three XP2i gauges with 0.1% of Reading accuracy.

One Weatherproof carrying case.

Eliminates typing and guessworkautomatically generates calibration reports.

Learn more here... ◀









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