



PROTEC-A-HOME[®]

Protection for your home and family



FIRE EXTINGUISHER MAINTENANCE MANUAL

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MAINTENANCE MANUAL

- The use of extinguisher SHALL comply with Regulation of Ministry of Labor & Transmigration of Republic Indonesia No : Per-04/Men/1980.
- The extinguisher SHALL be visually checked at least once per month for damage and serviceability.
- Withdraw from service if the tamper seal is missing, under pressure or under weight.
- The extinguisher SHALL be inspected two (2) times annually :
 - a. Semi-annual Inspection
 - b. Annual Maintenance
- The Semi-Annual Inspection scopes are :
 - a. Checking the tamper seal, safety pin, check the pressure and check the weight, if necessary.
 - b. Checking the exterior of the extinguisher cylinder, valve handle and label SHALL be in good condition.
 - c. Nozzle SHALL not be clogged/obstructed, Hose SHALL not cracked or any signs of defects.
- The Annual Maintenance scopes are :
 - a. For the foam-based extinguisher inspected by opening the valve carefully in upright position, then these SHALL be checked
 - Check the content volume up to tolerable limit
 - Check the dip tube and the filter SHALL not clogged
 - Check the thread of the valve SHALL not defect and interior fluid passage shall not clogged
 - Moving parts SHALL be in good condition, can move freely, not having sharp objects and plastic base shall not be broken
 - Interior of the cylinder SHALL not show any sign of corroded or dented
 - Foam Solutions prior filled into the cylinder SHALL be uniformly mixed
 - Inner coating of the cylinder interior SHALL be in good condition
 - Extinguisher SHALL be filled and charged as per specified by manufacturer
 - b. For the halogenated hydrocarbon-based extinguisher inspection and maintenance as per following manners :
 - Check the content by using weight scale
 - Discharge hose and dip tube SHALL not be clogged
 - Check the thread of the valve SHALL not defect
 - Extinguisher SHALL have charged as per specified
- Every fire extinguishers SHALL be hydrostatically tested not more than 5 years with minimum test pressure 1,5x working pressure
- Frequency of inspection, refill and hydrostatic test are shown in Table A.1

Table A.1 – Inspection, Refilling and Hydrostatic Test Schedule

Type	Inspection	Refill	Refill
Foam Chemical (AFFF / FFFP)	Semi Annual	Annual	Every 5 years
Wet chemical	Semi Annual	Annual	Every 5 years
Dry Chemical Stored Pressure	Semi Annual	Every 5 years	Every 5 years
Dry chemical Cartridge	Semi Annual	Every 5 years	Every 5 years
Carbon dioxide	Semi Annual	Every 5 years	Every 5 years (or 2 yeras after discharged)
HCFC/HFC(Halon Replacement)	Semi Annual	Every 5 years	Every 5 years



MAINTENANCE MANUAL

- The extinguisher prior to be refilled SHALL be checked as :
 - a. Cylinder SHALL be emptied
 - b. Cylinder, valve and other parts SHALL be visually checked thoroughly
 - c. Interior of the cylinder SHALL not show any sign of corroded or dented
 - d. Check the thread of the valve SHALL not defect and apply grease prior re-assemble
 - e. If ring seal made of butyl rubber, the seal SHALL be free of grease
 - f. Date of refill SHALL be written to the sticker or label of the extinguisher
 - g. Extinguisher SHALL be put back to the initiate position

Reference :

Peraturan Menteri Tenaga Kerja dan Transmigrasi Republik Indonesia Nomor : Per04//Men/1980

EXTINGUISHER PLACEMENT

- One or group of extinguishers SHALL be installed at non-obstructed position, easy access, and have mark in the installation point
- Sign or mark of the extinguisher SHALL be 125 cm from floor base
- Marking of the extinguisher SHALL be suitable with the fire class of the extinguisher
- Based on the content, the fire extinguisher has type :
 - Liquid : Water, Wet Chemical
 - Foam : AFFF, FFFP
 - Powder : ABC Powder, BC Powder
 - Gas : Carbon Dioxide, Halogenated Hydrocarbon
- Distance between one extinguisher to other extinguisher SHALL not exceed 15 meter each, unless approved by AHJ or competent personnel
- The extinguisher cylinder SHALL be installed hanging at the wall with wall-bracket or put inside unlocked box designed for extinguisher storage
- In case the box in the above article locked, the key storage SHALL has safety glass thickness 2mm maximum
- The dimension of the box SHALL suitable with the dimension of the extinguisher stored
- The extinguisher SHALL be installed in a way the upper part of the extinguisher having level not more than 1,2 meter from floor, except CO2 cylinder may be lower as long as the distance between the cylinder bottom and the floor not more than 15cm
- The ambient temperature SHALL not exceed 49° Celcius or less than -44° Celcius, unless the extinguisher having operation design outside those ambient temperature range
- Whereas the extinguisher is installed in outdoor, it SHALL be protected by jacket

POWDER

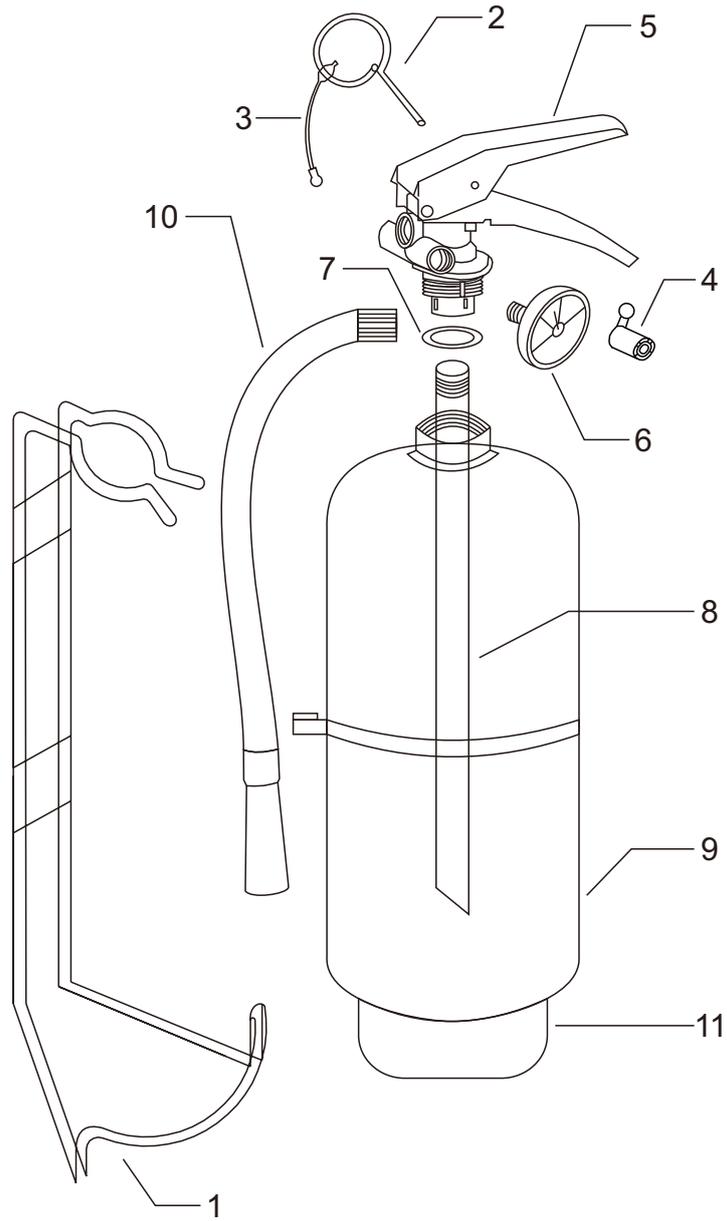
3 KG ABC POWDER FIRE RATING (EN 3-7) 13A 55B C Product Code : 3S-P30

TECHNICAL INFORMATION

- Model 3S-P30 - 3Kg ABC Powder contains high concentration MAP powder. Fire Rating 13A 55B C.
- Extinguishing medium : ABC Monoammonium Phosphate Powder, propellant Nitrogen gas.
- Test Pressure : 29 bar. Maximum Operating Pressure : 10 bar, Operating Pressure @ 25°C : 9 bar.
- Operating Temperature : -20°C ~ +60°C. Do not use outside specified temperature range.
- Refill Code : 3SABC33 - 3Kg Blue ABC Powder.

OPERATING INSTRUCTION

- The first step after taking the extinguisher from the wall bracket, turn up side down the cylinder.
- The second step to use the extinguisher is pull out the tamper seal.
- After tamper seal pulled out, pull the safety pin.
- Hold the extinguisher at the upper part of the valve using right / left hand and hold the end of the hose with other hand aims at the base of the fire. Do not aim at the flame.
- Next squeeze the upper part of the valve and let the extinguishing medium spray thoroughly maximal.
- Sweep the base of the fire, starting from the nearest point to you and move forward as the fire getting extinguished until the whole fire put off.



ITEM	DESCRIPTION	PART NUMBER
1	Wall Bracket	FCB2
2	Safety Pin	FSP
3	Pin Securing Strap	PSS
4	Plastic Tamper Seal	PTS/YELLOW
5	Valve Assy	FCV1
6	Bourdon-Type Pressure Gauge	FPG1
7	Neck 'O' Ring	FCON
8	Dip Tube	FCDP1
9	Cylinder	N/A
10	Hose & Nozzle	FHS1
11	Plastic Base	FCB1

POWDER

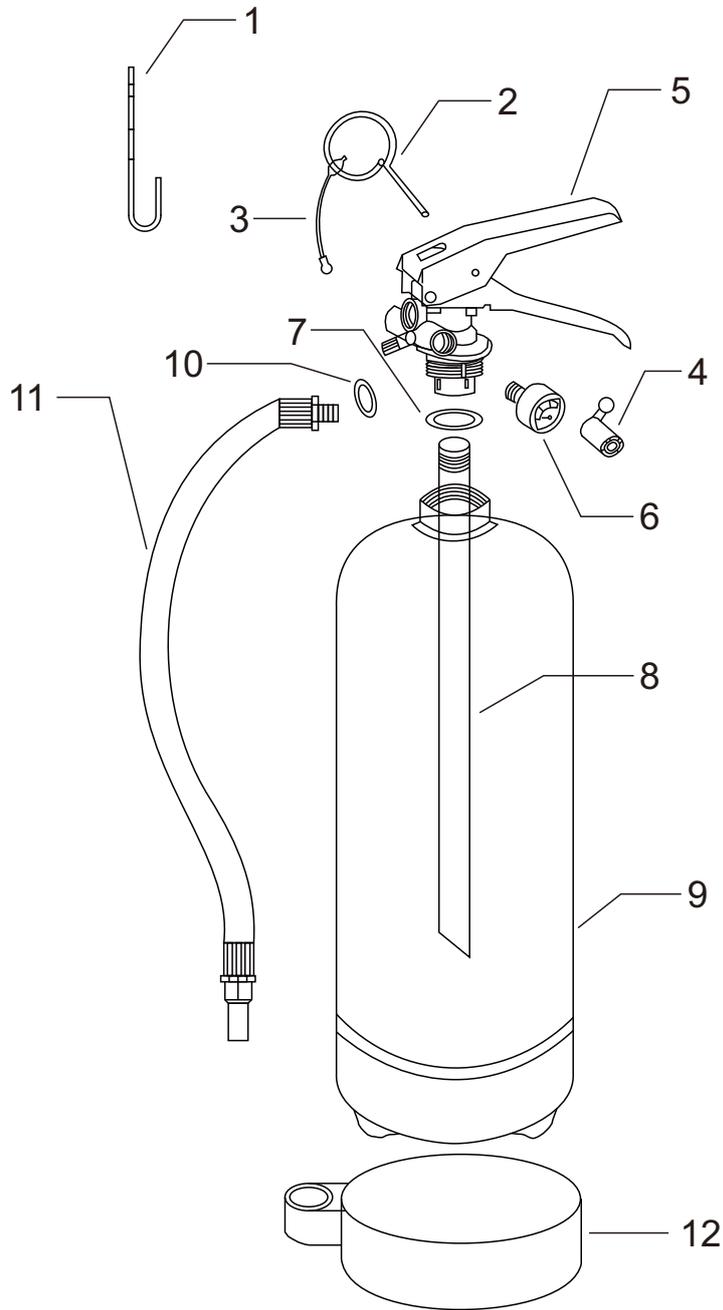
4,5 KG ABC POWDER FIRE RATING (EN 3-7) 21A 70B C Product Code : 3S-P45

TECHNICAL INFORMATION

- Model 3S-P45 - 4,5Kg ABC Powder contains high concentration MAP powder. Fire Rating 21A 70B C.
- Designed and manufactured in accordance with BS EN3 Standards.
- Extinguishing medium : ABC Monoammonium Phosphate Powder, propellant Nitrogen gas.
- Test Pressure : 29 bar. Maximum Operating Pressure : 17 bar, Operating Pressure @ 25°C : 14 bar.
- Operating Temperature : -20°C ~ +60°C. Do not use outside specified temperature range.
- Refill Code : 3SABC45 - 4,5Kg Blue ABC Powder.

OPERATING INSTRUCTION

- The first step after taking the extinguisher from the 'J' bracket, turn up side down the cylinder.
- The second step to use the extinguisher is pull out the tamper seal.
- After tamper seal pulled out, pull the safety pin.
- Hold the extinguisher at the upper part of the valve using right / left hand and hold the end of the hose with other hand aims at the base of the fire. Do not aim at the flame.
- Next squeeze the upper part of the valve and let the extinguishing medium spray thoroughly maximal.
- Sweep the base of the fire, starting from the nearest point to you and move forward as the fire getting extinguished until the whole fire put off.



ITEM	DESCRIPTION	PART NUMBER
1	'J' Bracket	BEJ1
2	Safety Pin	FSP
3	Pin Securing Strap	PSS
4	Plastic Tamper Seal	PTS/YELLOW
5	Valve Assy w/ Schrader	FCV2
6	Diaphragm-Type Pressure Gauge	FPG2
7	Neck 'O' Ring	FCON
8	Dip Tube	FCDP2
9	Cylinder	N/A
10	Hose 'O' Ring	FCOH
11	Hose & Nozzle	FHS2
12	Plastic Base	FCB2

POWDER

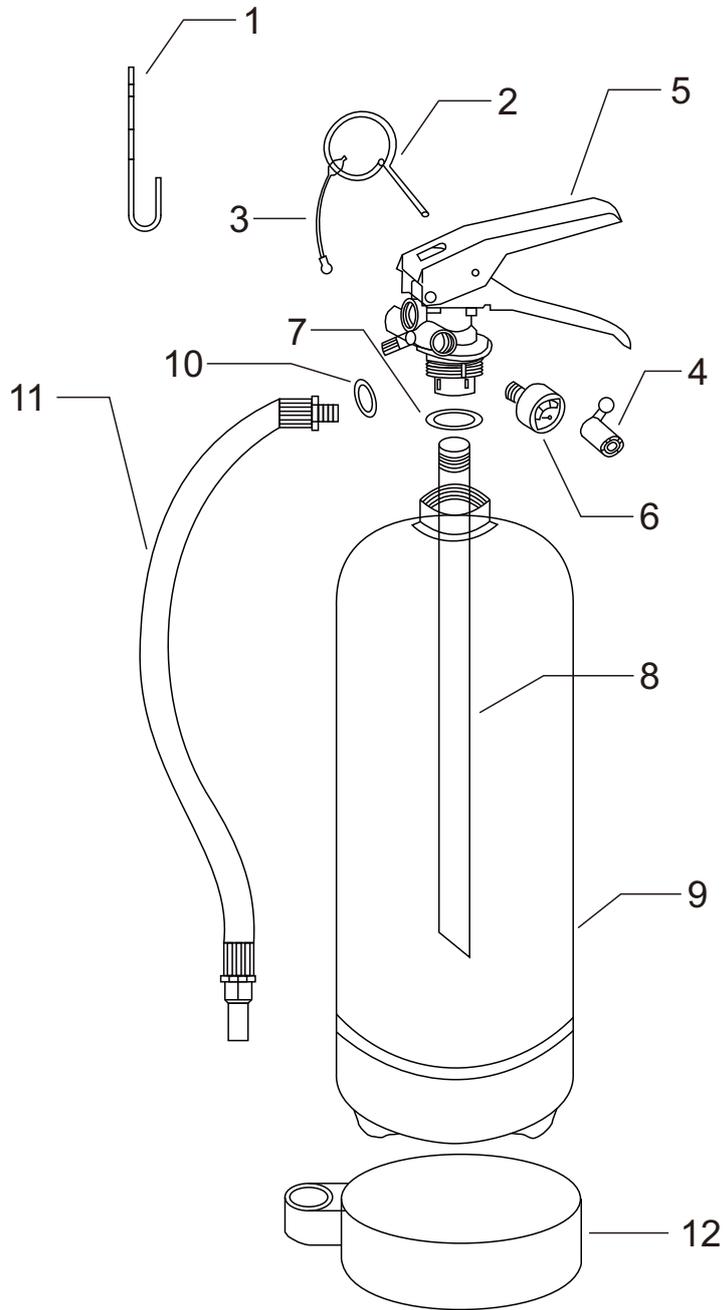
6 KG ABC POWDER FIRE RATING (EN 3-7) 27A 113B C Product Code : 3S-P60

TECHNICAL INFORMATION

- Model 3S-P60 - 6Kg ABC Powder contains high concentration MAP powder. Fire Rating 27A 113B C.
- Designed and manufactured in accordance with BS EN3 Standards.
- Extinguishing medium : ABC Monoammonium Phosphate Powder, propellant Nitrogen gas.
- Test Pressure : 29 bar. Maximum Operating Pressure : 17 bar, Operating Pressure @ 25°C : 14 bar.
- Operating Temperature : -20°C ~ +60°C. Do not use outside specified temperature range.
- Refill Code : 3SABC60 - 6Kg Blue ABC Powder.

OPERATING INSTRUCTION

- The first step after taking the extinguisher from the 'J' bracket, turn up side down the cylinder.
- The second step to use the extinguisher is pull out the tamper seal.
- After tamper seal pulled out, pull the safety pin.
- Hold the extinguisher at the upper part of the valve using right / left hand and hold the end of the hose with other hand aims at the base of the fire. Do not aim at the flame.
- Next squeeze the upper part of the valve and let the extinguishing medium spray thoroughly maximal.
- Sweep the base of the fire, starting from the nearest point to you and move forward as the fire getting extinguished until the whole fire put off.



ITEM	DESCRIPTION	PART NUMBER
1	'J' Bracket	BEJ1
2	Safety Pin	FSP
3	Pin Securing Strap	PSS
4	Plastic Tamper Seal	PTS/YELLOW
5	Valve Assy w/ Schrader	FCV2
6	Diaphragm-Type Pressure Gauge	FPG2
7	Neck 'O' Ring	FCON
8	Dip Tube	FCDP3
9	Cylinder	N/A
10	Hose 'O' Ring	FCOH
11	Hose & Nozzle	FHS3
12	Plastic Base	FCB3

POWDER

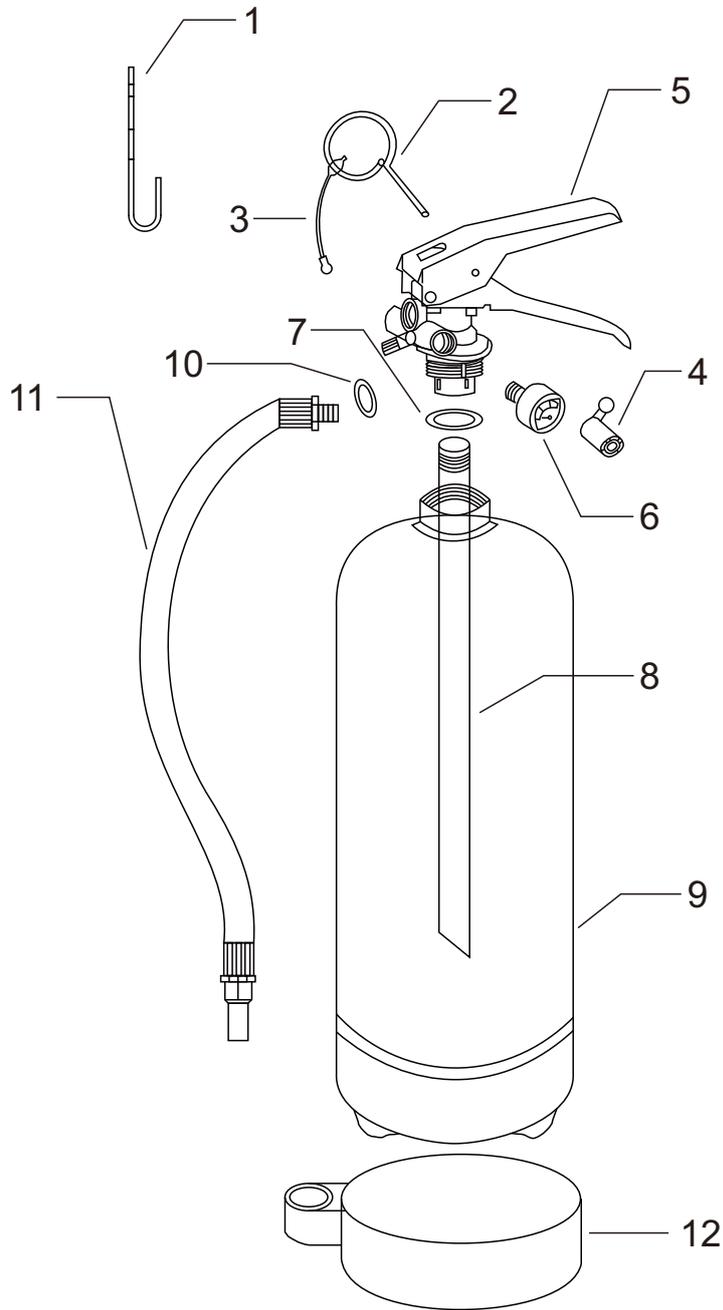
9 KG ABC POWDER FIRE RATING (EN 3-7) 34A 144B C Product Code : 3S-P90

TECHNICAL INFORMATION

- Model 3S-P90 - 9Kg ABC Powder contains high concentration MAP powder. Fire Rating 34A 144B C.
- Designed and manufactured in accordance with BS EN3 Standards.
- Extinguishing medium : ABC Monoammonium Phosphate Powder, propellant Nitrogen gas.
- Test Pressure : 29 bar. Maximum Operating Pressure : 17 bar, Operating Pressure @ 25°C : 14 bar.
- Operating Temperature : -20°C ~ +60°C. Do not use outside specified temperature range.
- Refill Code : 3SABC90 - 9Kg Blue ABC Powder.

OPERATING INSTRUCTION

- The first step after taking the extinguisher from the 'J' bracket, turn up side down the cylinder.
- The second step to use the extinguisher is pull out the tamper seal.
- After tamper seal pulled out, pull the safety pin.
- Hold the extinguisher at the upper part of the valve using right / left hand and hold the end of the hose with other hand aims at the base of the fire. Do not aim at the flame.
- Next squeeze the upper part of the valve and let the extinguishing medium spray thoroughly maximal.
- Sweep the base of the fire, starting from the nearest point to you and move forward as the fire getting extinguished until the whole fire put off.



ITEM	DESCRIPTION	PART NUMBER
1	'J' Bracket	BEJ2
2	Safety Pin	FSP
3	Pin Securing Strap	PSS
4	Plastic Tamper Seal	PTS/YELLOW
5	Valve Assy w/ Schrader	FCV2
6	Diaphragm-Type Pressure Gauge	FPG2
7	Neck 'O' Ring	FCON
8	Dip Tube	FCDP4
9	Cylinder	N/A
10	Hose 'O' Ring	FCOH
11	Hose & Nozzle	FHS4
12	Plastic Base	FCB4

POWDER

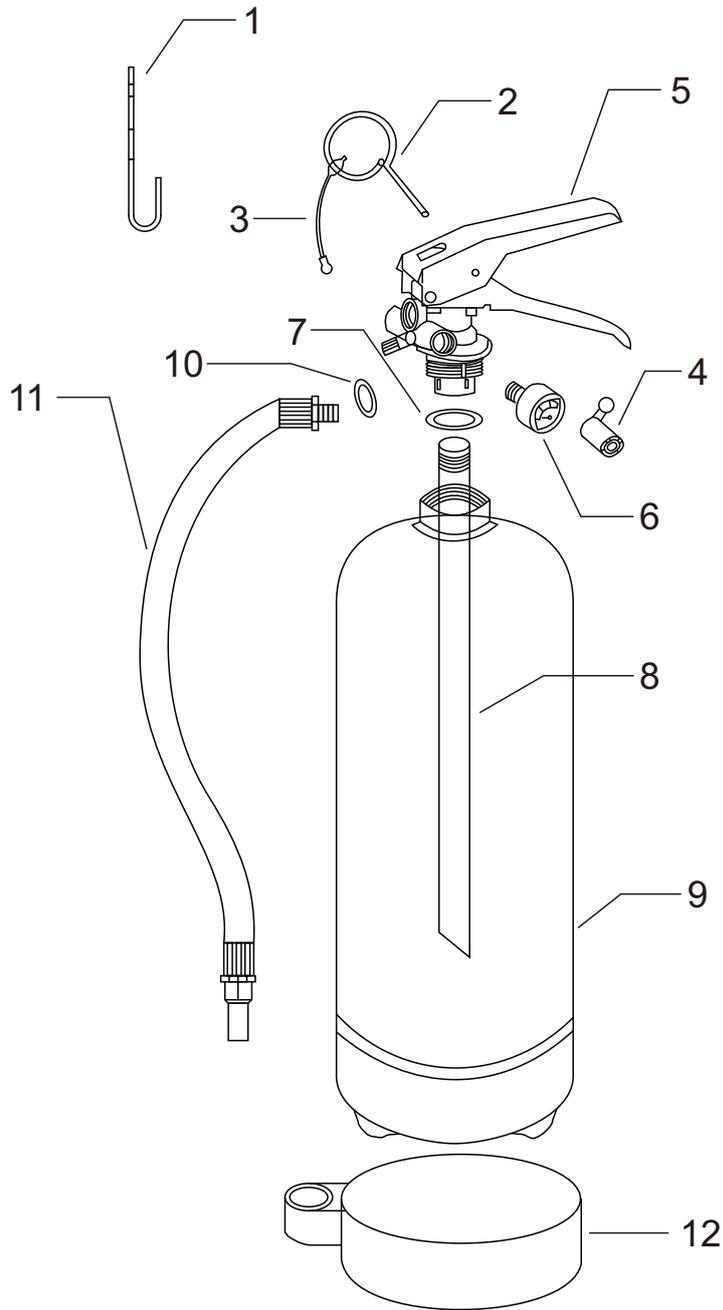
12 KG ABC POWDER FIRE RATING (EN 3-7) 43A 233B C Product Code : 3S-P120

TECHNICAL INFORMATION

- Model 3S-P120 -12Kg ABC Powder contains high concentration MAP powder. Fire Rating 43A 233B C.
- Designed and manufactured in accordance with BS EN3 Standards.
- Extinguishing medium : ABC Monoammonium Phosphate Powder, propellant Nitrogen gas.
- Test Pressure : 29 bar. Maximum Operating Pressure : 17 bar, Operating Pressure @ 25°C : 14 bar.
- Operating Temperature : -20°C ~ +60°C. Do not use outside specified temperature range.
- Refill Code : 3SABC120 - 12Kg Blue ABC Powder.

OPERATING INSTRUCTION

- The first step after taking the extinguisher from the 'J' bracket, turn up side down the cylinder.
- The second step to use the extinguisher is pull out the tamper seal.
- After tamper seal pulled out, pull the safety pin.
- Hold the extinguisher at the upper part of the valve using right / left hand and hold the end of the hose with other hand aims at the base of the fire. Do not aim at the flame.
- Next squeeze the upper part of the valve and let the extinguishing medium spray thoroughly maximal.
- Sweep the base of the fire, starting from the nearest point to you and move forward as the fire getting extinguished until the whole fire put off.



ITEM	DESCRIPTION	PART NUMBER
1	'J' Bracket	BEJ2
2	Safety Pin	FSP
3	Pin Securing Strap	PSS
4	Plastic Tamper Seal	PTS/YELLOW
5	Valve Assy w/ Schrader	FCV2
6	Diaphragm-Type Pressure Gauge	FPG2
7	Neck 'O' Ring	FCON
8	Dip Tube	FCDP5
9	Cylinder	N/A
10	Hose 'O' Ring	FCOH
11	Hose & Nozzle	FHS5
12	Plastic Base	FCB5

FOAM

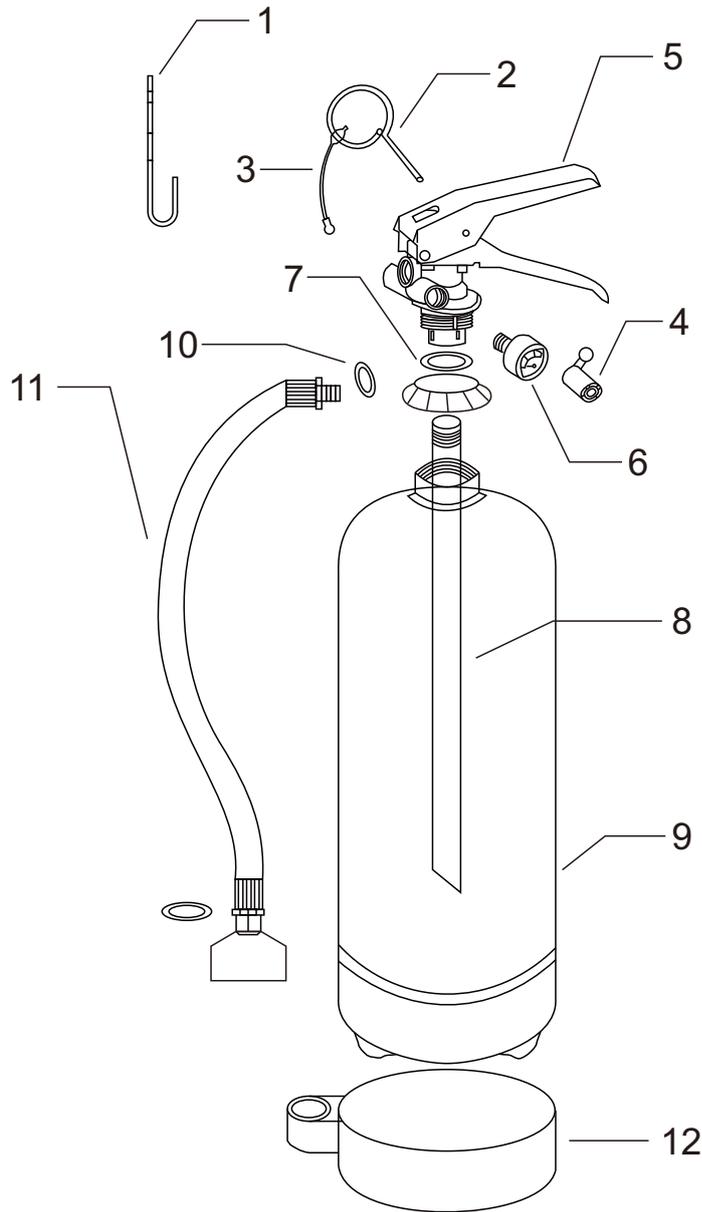
6 LTR AB FOAM FIRE RATING (EN 3-7) **xxA** **xxB** Product Code : **3S-F600**

TECHNICAL INFORMATION

- Model 3S-F600 - 6L AB Foam contains mixed foam & distilled water. Fire Rating **xxA** **xxxB**.
- Designed and manufactured in accordance with BS EN3 Standards.
- Extinguishing medium : mixed foam concentrate, distilled water and propellant Nitrogen gas.
- Test Pressure : 29 bar. Maximum Operating Pressure : **xx** bar, Operating Pressure @ 25°C : **xx** bar.
- Operating Temperature : +2°C ~ +49°C. Do not use outside specified temperature range.
- Refill Code : 3SFAB6 - 6L AB Foam.

OPERATING INSTRUCTION

- The first step after taking the extinguisher from the triangle bracket, turn up side down the cylinder.
- The second step to use the extinguisher is pull out the tamper seal.
- After tamper seal pulled out, pull the safety pin.
- Hold the extinguisher at the upper part of the valve using right / left hand and hold the end of the hose with other hand aims at the surface of the burning materials. Do not aim at the flame.
- Next squeeze the upper part of the valve and let the extinguishing medium spray thoroughly maximal.
- Sweep the surface of burning material, starting from the nearest point to you and move forward as the fire getting extinguished until the whole fire put off.



ITEM	DESCRIPTION	PART NUMBER
1	Triangle Bracket	BTA1
2	Safety Pin	FSP
3	Pin Securing Strap	PSS
4	Plastic Tamper Seal	PTS/YELLOW
5	Valve Assy w/ Swivel Connection	FCV3
6	Diaphragm-Type Pressure Gauge	FPG2
7	Neck 'O' Ring	FCON2
8	Dip Tube	FCDP6
9	Cylinder	N/A
10	Hose 'O' Ring	FCOH2
11	Hose & Nozzle	FHS6
12	Plastic Base	FCB6

FOAM

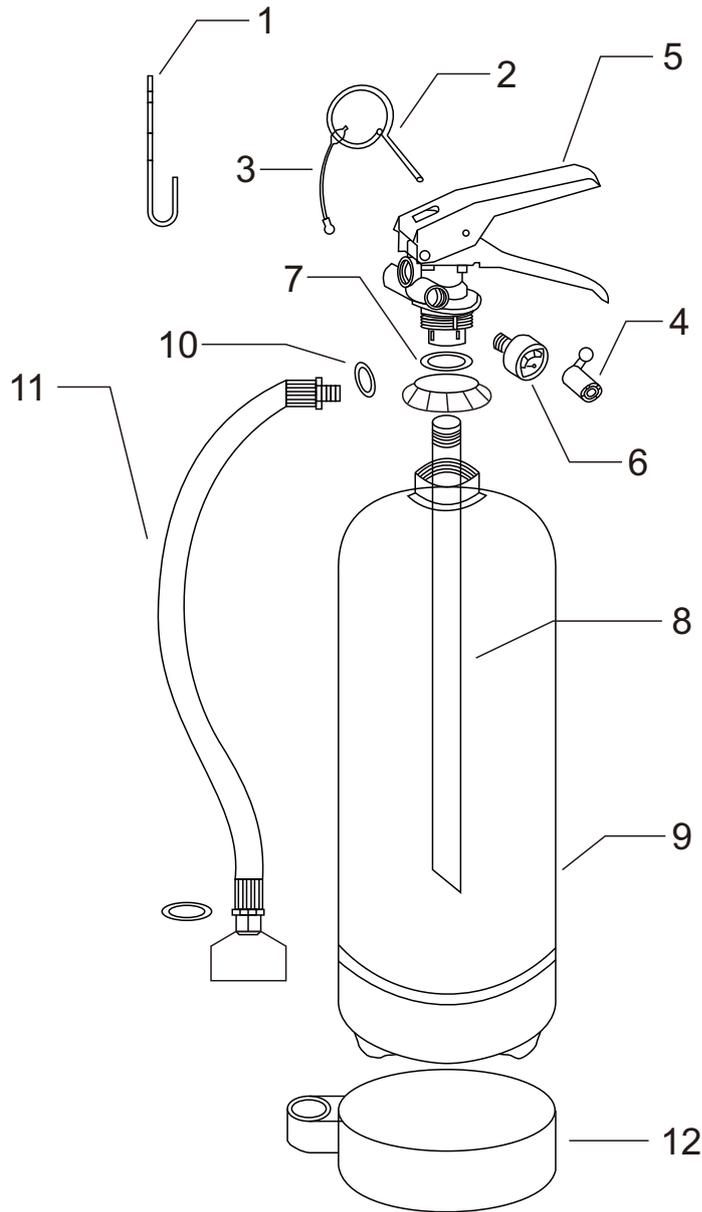
9 LTR AB FOAM FIRE RATING (EN 3-7) **xxA** **xxB** Product Code : **3S-F900**

TECHNICAL INFORMATION

- Model 3S-F900 - 9L AB Foam contains mixed foam & distilled water. Fire Rating **xxA** **xxxB** C.
- Designed and manufactured in accordance with BS EN3 Standards.
- Extinguishing medium : mixed foam concentrate, distilled water and propellant Nitrogen gas.
- Test Pressure : 29 bar. Maximum Operating Pressure : **xx** bar, Operating Pressure @ 25°C : **xx** bar.
- Operating Temperature : +2°C ~ +49°C. Do not use outside specified temperature range.
- Refill Code : 3SFAB9 - 9L AB Foam.

OPERATING INSTRUCTION

- The first step after taking the extinguisher from the triangle bracket, turn up side down the cylinder.
- The second step to use the extinguisher is pull out the tamper seal.
- After tamper seal pulled out, pull the safety pin.
- Hold the extinguisher at the upper part of the valve using right / left hand and hold the end of the hose with other hand aims at the surface of the burning materials. Do not aim at the flame.
- Next squeeze the upper part of the valve and let the extinguishing medium spray thoroughly maximal.
- Sweep the surface of burning material, starting from the nearest point to you and move forward as the fire getting extinguished until the whole fire put off.



ITEM	DESCRIPTION	PART NUMBER
1	Triangle Bracket	BTA1
2	Safety Pin	FSP
3	Pin Securing Strap	PSS
4	Plastic Tamper Seal	PTS/YELLOW
5	Valve Assy w/ Swivel Connection	FCV3
6	Diaphragm-Type Pressure Gauge	FPG2
7	Neck 'O' Ring	FCON2
8	Dip Tube	FCDP7
9	Cylinder	N/A
10	Hose 'O' Ring	FCOH2
11	Hose & Nozzle	FHS7
12	Plastic Base	FCB7

WET.CHEMICAL

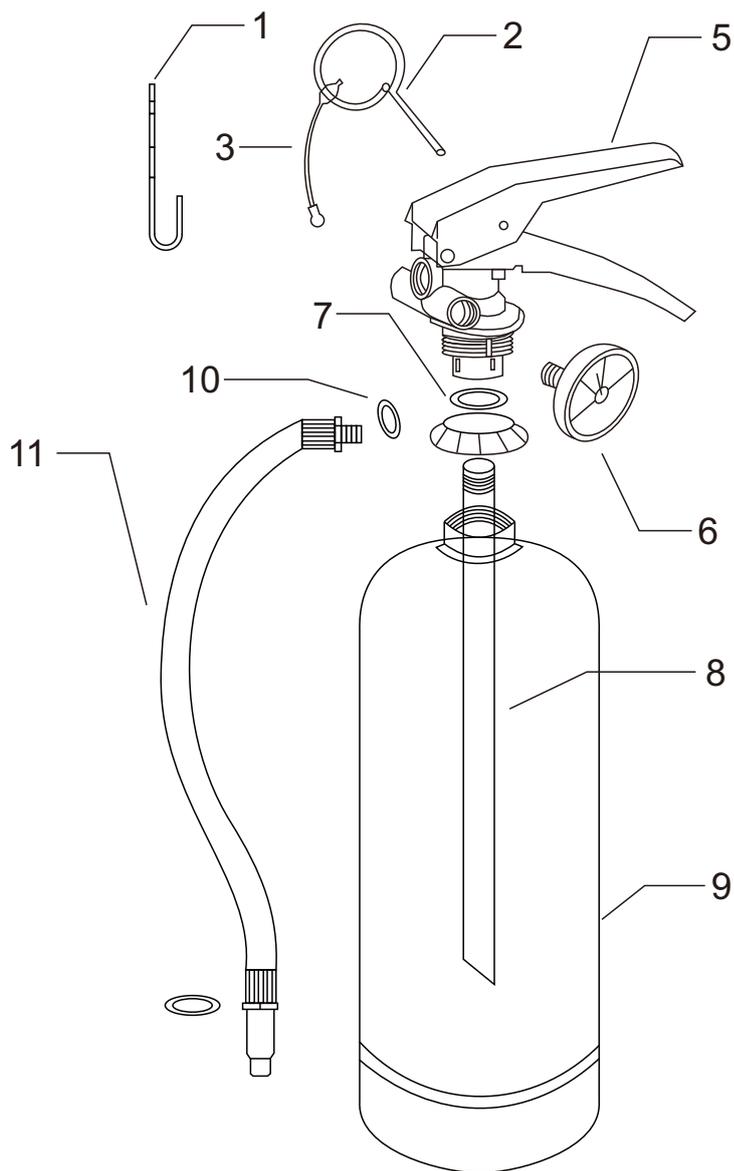
6 LTR WET CHEMICAL FIRE RATING (EN 3-7) 75F A Product Code : CS-6FEX

TECHNICAL INFORMATION

- Model CS-6FEX - 6L Wet Chemical contains Alkaline Potassium Salt solution. Fire Rating 75F A.
- Designed and manufactured in accordance with BS EN3 Standards.
- Extinguishing medium : Alkaline Potassium Salt solution and propellant Nitrogen gas.
- Test Pressure : 21 bar. Maximum Operating Pressure : 9 bar, Operating Pressure @ 25oC : 7 bar.
- Operating Temperature : +2oC ~ +49oC. Do not use outside specified temperature range.
- Refill Code : 3SWC6.

OPERATING INSTRUCTION

- The first step after taking the extinguisher from the triangle bracket, turn up side down the cylinder.
- The second step to use the extinguisher is pull out the tamper seal.
- After tamper seal pulled out, pull the safety pin.
- Hold the extinguisher at the upper part of the valve using right / left hand and hold the end of the hose with other hand aims at the surface of the burning cooking oil. Do not aim at the flame. Spray with gentle and avoid not spray in down sharp angle in order to avoid the burning cooking oil splashed. If the burning liquid splashed, it may make the situation become worse.
- Sweep the surface of burning cooking oil, starting from the nearest point to you and move forward as the fire getting extinguished until the whole fire put off and the whole surface covered with brown cracker. DO NOT STOP THE SPRAY if the whole cooking oil surface has not been covered.



ITEM	DESCRIPTION	PART NUMBER
1	Triangle Bracket	BTA2
2	Safety Pin	FSP
3	Pin Securing Strap	PSS
4	Plastic Tamper Seal	PTS/YELLOW
5	Valve Assy w/ Swivel Connection	FCV4
6	Bourdon-Type Pressure Gauge	FPG3
7	Neck 'O' Ring	FCON2
8	Dip Tube	FCDP8
9	Cylinder	N/A
10	Hose 'O' Ring	FCOH2
11	Hose & Nozzle	FHS8



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