

# Management & Installation Guide

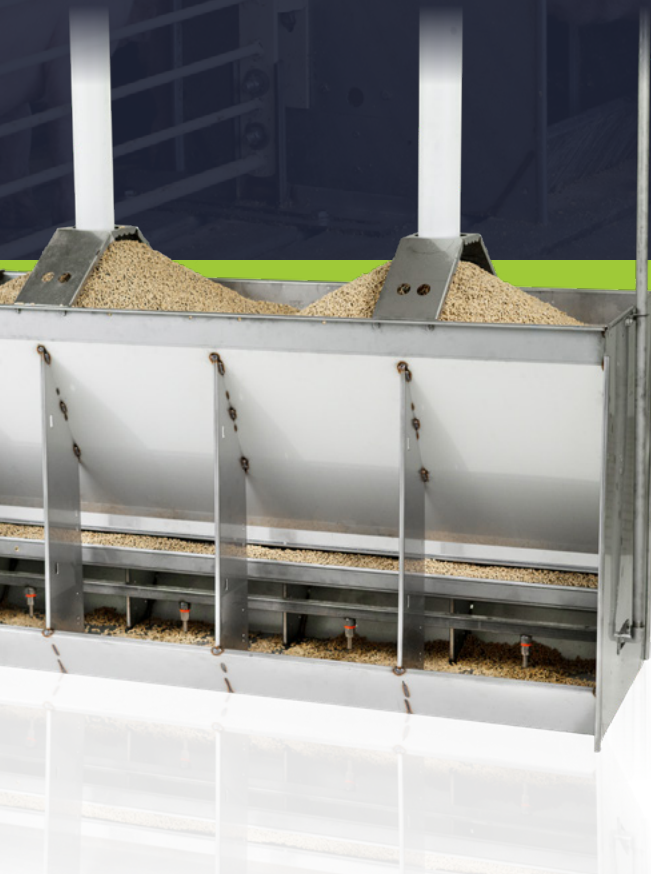
Grow-to-Finish / Series F1

2022



**CRYSTAL  
SPRING**

**HOG EQUIPMENT**



# FEEDER MANAGEMENT THE FIRST 1 TO 2 DAYS



## PIG PLACEMENT



- Wet/Dry Wean-to-Finish feeders get optimal performance with 13-15 pigs per space.
- Each pen should have a minimum of 12 pigs per feeder space, with a maximum of 16.
- Example: 60 pigs in a pen should have access to four feeder spaces –  $60/15=4$

## WATER



Turn on the water to the feeder nipples prior to pig arrival and adjust water flow recommended rate for Week 1 in Table 1.

**TABLE 1**

Week in Barn	Pig Age (Days)	Pig Weight (lbs)	Pig Weight (kg)	Feeder Nipple Valves	Water Flow (cup/min)	Water Flow (ml/min)
1-6	63-155	60-155	27-70	On	3.0-3.5	710-828

Just prior to pig arrival, place 1-2 inches (2.5-5.0 cm) of water in the feeder pan/trough to help them rehydrate.

If pigs have not been fed from a Crystal Spring Wet/Dry Nursery feeder, add water to the feeder pan/trough three times on Day 1, and twice on Day 2 to facilitate learning of the wet/dry feeder.

Supplemental water sources (drinkers or cups; 1 per 30-50 pigs) can be used in addition to the water in the feeder pan as recommended by your vet.

## FEED



### Feed shelf adjustment

Based on your preferred type of feed, the following adjustment setting range is recommended:

- Mini pellets 4-7
- Standard pellets 6-10
- Mash feed\* 9-18

*\*Mash formulas that contain high levels of energy/fat may require a wider shelf opening.*

# FEEDER MANAGEMENT AFTER PIG PLACEMENT DAY 2+



## FEED SHELF ADJUSTMENT



Adjust feed shelf settings as needed to provide 50-60% pan coverage (Figure 1). The feeder may need to be adjusted after each ration change to maintain the correct pan coverage.

Based on your preferred type of feed, the following adjustment setting range is recommended:

- Mini pellets** 4-7
- Standard pellets** 6-10
- Mash feed\*** 9-18

\*Mash formulas that contain high levels of energy/fat may require a wider shelf opening



FIGURE 1

Adjust feed shelf one notch at a time until the correct pan coverage is reached (Figure 2). After each single notch adjustment, we recommend you wait 2-4 hours to see if correct pan coverage is attained. Be sure feeder adjustments are placed on the same setting at both ends of the feeder.

**NOTE:** It is not uncommon for the feed shelf to become gummed/clumped with damp feed due to pigs' wet snouts or licking, therefore, it may be necessary to clean the feed shelf every 5-7 days using a small steel rod or screw driver. Move the tool the full length of the shelf to dislodge any gummed or clumped feed. If the feed shelf requires cleaning more often, please verify that the water-flow noted on Table 2 on page 5 is correct.



FIGURE 2

# WATER



Adjust the pressure regulator to maintain the water flow rates base on the pigs age and weight indicated in Table 2.

**TABLE 2: RECOMMENDED WATER FLOW**

	Week in Barn	Pig Age (Days)	Pig Weight (lbs)	Pig Weight (kg)	Feeder Nipple Valves	Water Flow (cup/min)	Water Flow (ml/min)
Finishing Phase	1-6	63-155	60-155	27-70	On	3.0-3.5	710-828
	7-13	71-155	160-230	73-104	On	3.0-3.5	710-828
	14-18	156-183	235-280	107-127	On	3.5-4.0	818-1000

For best results, we recommend a regulator that can attain the equivalent pressure range of 1.5 to 13psi (0.103 to 0.90 bar) to reach the recommended water flow rates.

Alternatively, Crystal Spring's Adaptive-Flow™ Inline Regulator with Quick Connect Valve (Mdl# H19-0041) may be attached to each feeder vertical pipe to attain the recommended water flow rates.

## SUPPLEMENTAL WATER

Turn off supplemental water source after pigs have been rehydrated – 1 to 2 days after placement. If pigs have not been fed from a Crystal Spring Wet/Dry Nursery feeder, it may be necessary to keep supplemental water source on for up to 7 days to give time for the pigs to learn to trigger the feeder nipples and make wet feed. Once pigs are showing evidence that they can make wet feed, turn supplemental water source off.

Supplemental water sources should be turned on again when temperature outside the barn exceeds 85°F (29°C) and/or when pig weights reach 180lbs (82 kg) and greater.



# TROUBLESHOOTING

OBSERVATION	FEEDER					FACILITIES / ENVIRONMENT						
	Check/replace nipples	Adjust feed shelf	Adjust water pressure	Check water lines	Clean out stale feed	Check feed quality	Check cooling/ventilation	Provide supplemental water	Check water quality	Turn off supplemental water	Evaluate pig health	Adjust pigs per feeder space
STANDING WATER IN PAN	●		●		●	●						
STALE FEED IN PAN					●			●			●	●
DRY FEED IN PAN	●	●	●	●						●		
EXCESSIVE FEED IN PAN	●	●	●								●	
INADEQUATE FEED IN PAN		●										●
GUMMED UP FEED SHELF		●	●									
FIGHTING OR TAIL BITING	●			●			●	●				●
LAYING IN OR BY PAN	●						●					
LOITERING AT FEEDER	●			●			●	●				



# INSTALLATION GUIDELINES

## FEEDER PLACEMENT INSIDE THE PEN



**FULL SLATTED FLOORS** - Place feeders a minimum of 6' (2 m) from the aisle and make sure feeders are level to prevent uneven pooling of water or feed. In rectangle-shaped pens, we do not recommend the feeder be placed in center of pen to keep the feeder spaces clean and free of dung/urine.

**PARTIALLY SLATTED FLOORS** - Place feeders a minimum of 18" (45 cm) from the slats and make sure feeders are level to prevent uneven pooling of water or feed.

**SOLID-FLOORS WITH OPEN GUTTER FLUSH** - Place feeders 6' (2 m) from the aisle. Feeders will require additional leveling due to the slope in the floor. For further guidance and recommendations, consult your Authorized Crystal Spring Dealer or your direct Crystal Spring Expert.



FIGURE 3

## FEEDER ATTACHMENT



**GATES** - Attach to gate posts or pen dividers with U-channel or angle iron using knock out holes in the feeder gable ends. (See Options 3 and 4 below). Two-space feeders (only) may be turned 90° to gating and attached at the feeder space divider (See Option 2 Below). Gating should include a foot for additional support.

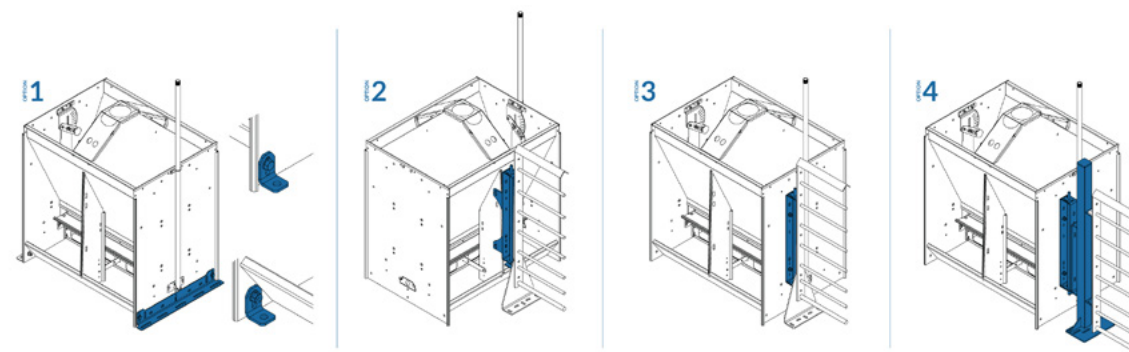
**FLOOR** - Attach to the floor using only Crystal Spring approved mounting brackets. For slatted floors, use Crystal Spring Model# M13-1022 or M13-1023: Feeder Mounting Kits. For solid floors, use Crystal Spring Model # M13-1041, L-Bracket Mounting Kit. (See Option 1 below).

*PLEASE NOTE: Never secure feeders directly to the floor through the pan. Doing so will impair the expected performance of the feeder as well as void the product warranty.*

**Install feeders on a level surface to prevent pooling of water or feed.**

**SOLID-WALL PEN DIVIDERS** - Use the above listed attachment method depending on floor type - fully-slatted or solid floors. We recommend an opening in the solid-wall be 3.5" (9 cm) larger than the feeder length (Figure 3) . This allows the complete feeder including vertical waterline to be place within the opening.

### FEEDER ATTACHMENT OPTIONS:



## CONNECTING FEED DELIVERY SYSTEM TO FEEDER



Each Crystal Spring Feeder comes with at least one feed drop tube holder (Figure 4).



Feeders 48" (122 cm) and longer contain two drop tube holders, allowing for more even filling in the feeder hopper.

Adjust feed tube holders and/or knockouts to fit the approach angle of the feed drop tubes.

Feed drop tubes should be cut to extend at least 2" (5 cm) lower than the feed tube holder to ensure the tubes do not come out of the holder.

## PRESSURE REGULATORS / FLOW-CONTROL VALVES



For pump-pressurize water systems, we recommend a regulator that can attain the equivalent pressure range of 1.5 to 13psi ( 0.103 to 0.90 bar) to be able to adjust to the recommended water flow rates.

\*Maximum of 700 pigs per regulator.

Crystal Spring has developed a kit (Mdl #M44-0033) that includes a Methven Maxiflo 6003 regulator, pressure gauge and fittings (Figure 5) for installation in most barn layouts.

Alternatively, Crystal Spring's Adaptive-Flow™ Inline Regulator with Quick Connect Valve - Mdl# H19-0041 (Figure 6) - may be attached to each feeder's vertical waterline to attain the recommended water flow rates.

For "gravity" pressurized or holding-tank systems, make sure water-flow is within the recommended range, Chart 1. Depending on the height of installation of the holding-tank, it may be necessary to install a pressure regulator or Crystal Spring's Adaptive-Flow™ Inline Regulator with Quick-Connect Valve to attain the recommended water flow range.

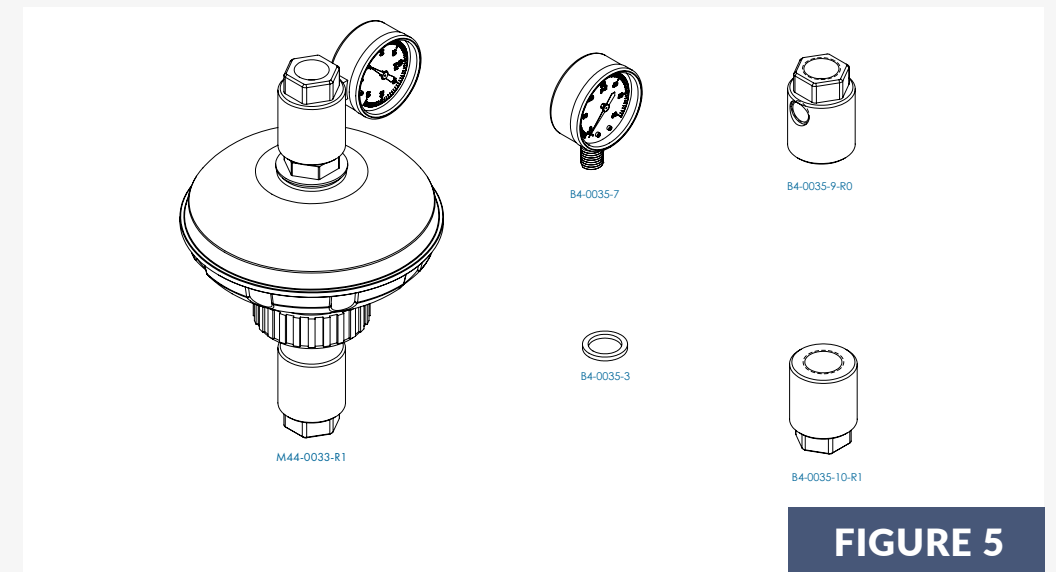


FIGURE 5

## CONNECTING THE WATER SUPPLY LINE TO THE FEEDER



- Main water supply line into barn should be a minimum of 1.5"
- Main water supply should enter in the middle of the barn to ensure consistent flow throughout the barn.
- Use 1" (2.5 cm) diameter water lines in the barn.
- Flush lines to remove foreign matter.



FIGURE 6

Supply Hose Recommendations:

- Use a black or opaque flexible hose when connecting from supply line to the feeder and not a clear hose, which promotes algae growth.
- Use ½" ID (1,27 cm) hose to allow for ample water supply to the feeder.
- Avoid excess hose length that may become accessible to the pigs.

Before connecting hose to the feeder, flush lines to remove all foreign matter.

Use Teflon tape on all threaded water connections (if present) – do not use pipe compound. Use extra tape on stainless steel to stainless steel connections.

If using a Crystal Spring 2-piece waterline follow these steps:

1. Attach the 90° elbow to the horizontal waterline in the feeder after taping the threads with pipe tape as previously recommended. Do not thread elbow all the way into the waterline but only enough to make the connection snug. The threads on the elbow are tapered to allow for proper sealing.
2. Attach the vertical pipe to the elbow after taping the threads with pipe tape.

If your feeder has a one-piece or two piece waterline, use Crystal Spring's Quick Connect Valve - Mdl# H19-0052 (Figure 7) or Crystal Spring's Adaptive-Flow™ Inline Regulator with Quick Connect Valve - Mdl# H19-0041 (Figure 6) - to connect vertical pipe to hose/water supply line.

After connecting the water supply line and hose to the feeder, manually trigger each nipple valve to make sure there is water supplied to feeder.



FIGURE 7



# THANK YOU

If you have any questions, please contact us:



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